U.S. Environmental Protection Agency
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TES 9

Technical Enforcement Support at Hazardous Waste Sites Zone III Regions 5,6, and 7

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PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION

BASF CORPORATION
DETROIT, MICHIGAN
MID 007 138 746

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460

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EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC) performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the BASF Corporation (BASF) facility in Detroit, Michigan. This report summarizes the results of the PA/VSI and evaluates the potential for releases of hazardous wastes or hazardous constituents from the SWMUs identified.

The BASF facility is an automotive paint, resin, and clear coat manufacturing plant located on 20.75 acres in a mixed industrial and residential area of Detroit, Wayne County, Michigan. The facility has been manufacturing automotive paints since 1913, initially as Cook Industrial Coatings, and from 1982 to 1985 as Glasurit America, Inc. In 1985, Glasurit merged with BASF Inmont to form BASF Corporation.

From 1980 to 1984, the facility operated under an interim status permit as a treatment, storage, and disposal facility. During that time, two spent solvent recycling stills were in operation, in addition to the automotive paint manufacturing done at the plant. The closure of one still was approved by EPA in 1984; the other still was taken out of operation in 1986. Since 1984, the facility has been a large-quantity generator that stores hazardous wastes for fewer than 90 days.

The Wayne County Department of Public Works Air Pollution Control Division (APCD) regulates air emissions from the facility. At the last inspection, the BASF facility had 93 certificates of operation for its equipment.

BASF currently generates several waste streams at the facility, including a variety of hazardous wastes. Hazardous wastes managed at the facility include ignitable spent adsorbents (EPA Hazardous Waste Code D001); filtration media and other solids (D001); waste filter paper and filter aid (D001); ignitable spent solvents (F003, F005, and D001); overstocked, out of date paints and resins (D001); waste paints and resins (D001); rinse water (D001); and resin/water solvent mixtures (D001).

The PA/VSI identified 13 SWMUs at the facility; no AOCs were identified. The SWMUs are:

Solid Waste Management Units

1. Former Reclamation Area
2. Tank Farm
3. Reactor Catch Tank
4. Resin Wastewater Storage Tank
5. Portable Tank Cleaning Area
6. Wastewater Treatment Unit
7. Caustic Cleaning Area
8. Small Container Storage Area
9. Bailer-Crusher Pad
10. Central Drum Storage Area
11. Satellite Accumulation Areas
12. Paint Waste Staging Area
13. Resin Waste Staging Area

The potential for releases of hazardous wastes or constituents to the ground water from SWMUs at the facility is low except for SWMU 6. Most of the SWMUs are located indoors and now have some form of secondary containment. Although SWMU 6 is located indoors on a concrete surface, it does not have secondary containment and therefore poses a moderate potential for release. BASF has a wastewater treatment operation that discharges to a local publicly owned treatment works (POTW). SWMUs 2, 9, and 10 are located outdoors; however, their containment is sound. Most of the processing area of the facility is paved and has controlled drainage manholes that lead to the POTW. According to the Detroit Water and Sewerage Department ground water is not used in the area; instead, water for drinking and industrial purposes is drawn from the Detroit River.

Two spills reported by the facility might have resulted in releases to surface water. In 1986, a xylene spill of 300 to 400 gallons occurred at the tank farm (SWMU 2). The waste was released through the sewer system to the POTW. The release was caused by a valve to the sewer being left open. The corrective measures the facility took included (1) adding a lockout device to the feed tank and (2) installing a new overfill cutoff system at the tank. A xylene spill from a reactor in 1990 released 1,500 pounds to the sewer system and POTW. The facility changed the gradient of the floor in the reactor room and plugged the floor drains. On June 28, 1990, about 1,000 pounds of propylene oxide and 10 pounds of propylene glycol were released to the air and sewer system, respectively. In all three incidents, should the POTW have failed to contain the

spill, releases would have occurred to the Detroit River. The current potential for release of hazardous wastes or constituents to the surface water is low. The closest surface waters, the Detroit River and the River Rouge, are both more than 4 miles from the facility.

The potential for releases to air is moderate. The file review revealed seven incidents of documented releases to air. In each incident, the facility took corrective measures to reduce the possibility of recurrence. All active SWMUs that manage volatile wastes at the facility are indoors and have some form of secondary containment.

The potential for releases to on-site soil is low. The facility's underground storage tanks, with the exception of two, have been either removed or filled in. Of the two remaining underground storage tanks, one is inactive and the other is used to store coolant water. No evidence of releases from the tanks has been found in the records. The current SWMUs all appear to have sufficient secondary containment to guard against releases of hazardous waste to on-site soils except for SWMU 6.

Possible receptors at the site include nearby residents and site workers. BASF is located in a mixed residential and industrial area. The facility employs approximately 270 people. There are several schools located within a mile of the facility. All activities at the site are conducted on concrete floors (indoors) or on asphalt. Access to the site is limited; a fence surrounds the site and all gates are locked or guarded.

PRC recommends that the facility install secondary containment at SWMU 6. Steps have been taken to prevent the recurrence of releases from SWMU 2. PRC recommends no further action for the remaining SWMUs.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC) received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) programs are working together to identify and address RCRA facilities that have high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of setting priorities among facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential release(s) to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, whether or not the unit was intended to manage solid or hazardous waste.

Units that fall within the definition of a SWMU include:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents -- for example, an area where a wood preservative has dripped, a loading and unloading area, or an area where solvent used to wash large parts has dripped continually onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a non-routine and nonsystematic

basis. This includes any area where the possibility of such a release in the future is considered strong.

The purpose of the PA is to:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI.

The PA includes a review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is to:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases.

The VSI includes interviewing facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all SWMUs, identifying evidence of releases, initially identifying potential sampling locations, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the BASF Corporation facility (BASF) in Detroit, Michigan. The PA was completed on October 15, 1991. PRC gathered and reviewed information from the Michigan Department of Natural Resources (MDNR) and from EPA Region 5 RCRA files. The VSI was conducted on November 6, 1991. It included interviews with one

facility representative and a walk-through inspection of the facility. Thirteen SWMUs were identified at the facility; no AOCs were identified.

The VSI is summarized and seven inspection photographs are included in Attachment A. Field notes from the VSI are included in Attachment B.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, release history, regulatory history, environmental setting, and receptors.

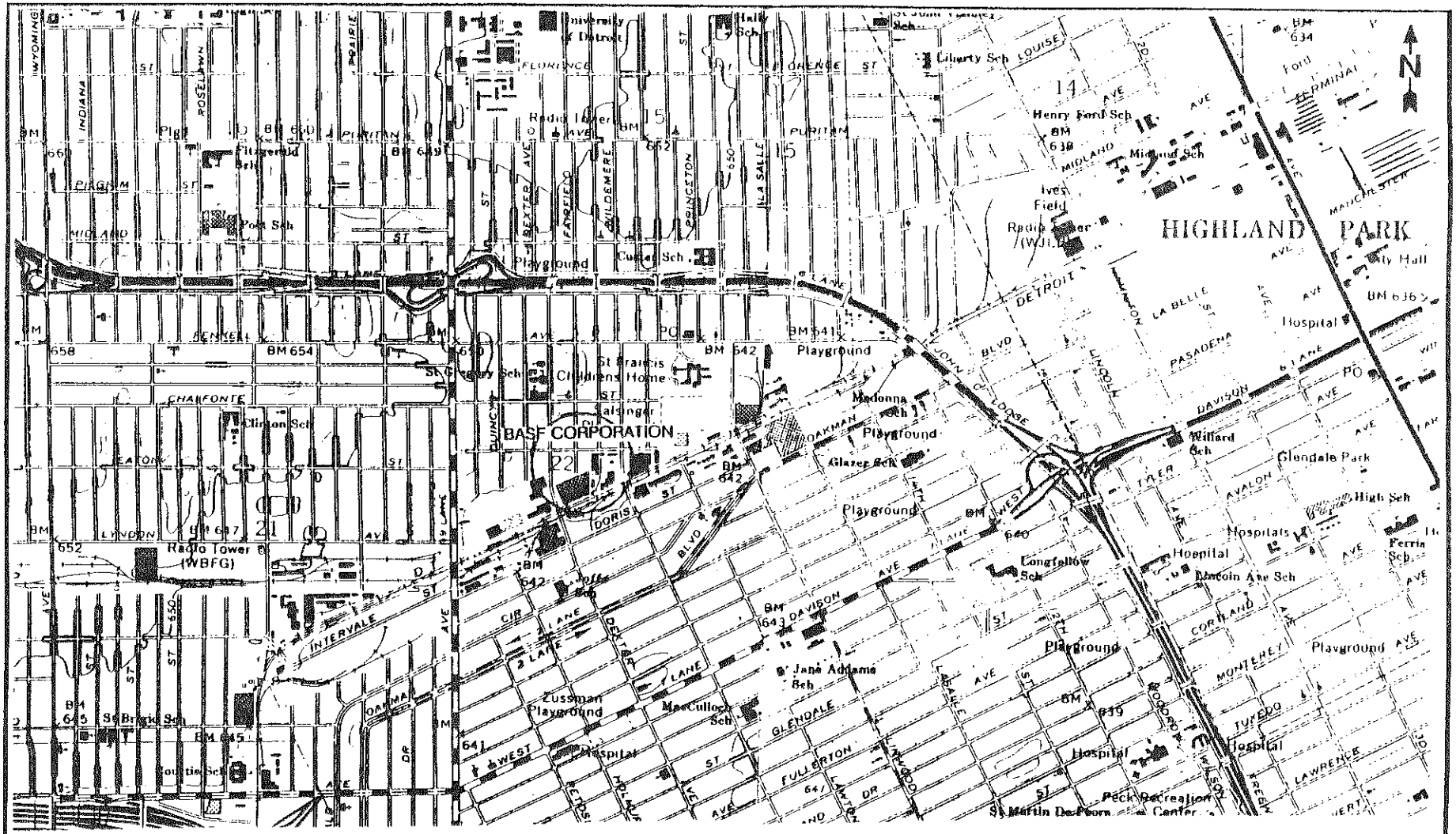
2.1 FACILITY LOCATION

The BASF facility is located at 3301 Bourke Avenue in western Detroit, Wayne County, Michigan (latitude 42°23'56" N; longitude 83°07'59" W). The facility occupies 20.75 acres in a mixed industrial and residential area. It is bordered on the north by Bourke Avenue, on the east by Wildemere Street, on the south by the C & O Railway, and on the west by Dexter Avenue. There are residences and schools within 1 mile of the facility. Figure 1 illustrates the location of the BASF facility.

2.2 FACILITY OPERATIONS

Akron Varnish Company owned the facility from 1907 to 1923. In 1923, Cook Industrial Coatings, Inc. (Cook), bought the facility and operated it until 1980, when its name was changed to Glasurit America, Inc. (Glasurit, 1982). On December 31, 1985, Glasurit merged with BASF Inmont Corporation and became BASF Corporation (Glasurit, 1985b). BASF currently employs approximately 270 people in the manufacture of paint, resins, and clear-coating material for the automotive industry. Figure 2 shows the layout of the facility. Table 1 lists the SWMUs identified at the BASF facility and their current status.

Cook manufactured paints, varnishes, miscellaneous coatings, and resins at the facility. The Cook site was a treatment, storage, and disposal facility (TSDF), as well as a generator, until its closure in 1984. During this period, the facility operated two solvent recycling stills. A firm call Nortru, Inc., owned by Norm Foster, accepted spent solvent wastes from off-site generators for recycling in the larger of the two stills. Spent solvents were transported in drums or bulk tanks to the site from off-site generators and were stored in aboveground tanks in building 20A (SWMU 1). Building 20A contained 19 tanks: 10 for spent solvents, 2 for still bottoms, and 7 for storage of solvents reclaimed by the Nortru-owned still. The spent solvents were stored for as long as a year before they were recycled (MDNR, 1982a). Only limited information is available about Nortru's solvent recovery operations. File information indicates that reclaimed solvents



SCALE 1: 24000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

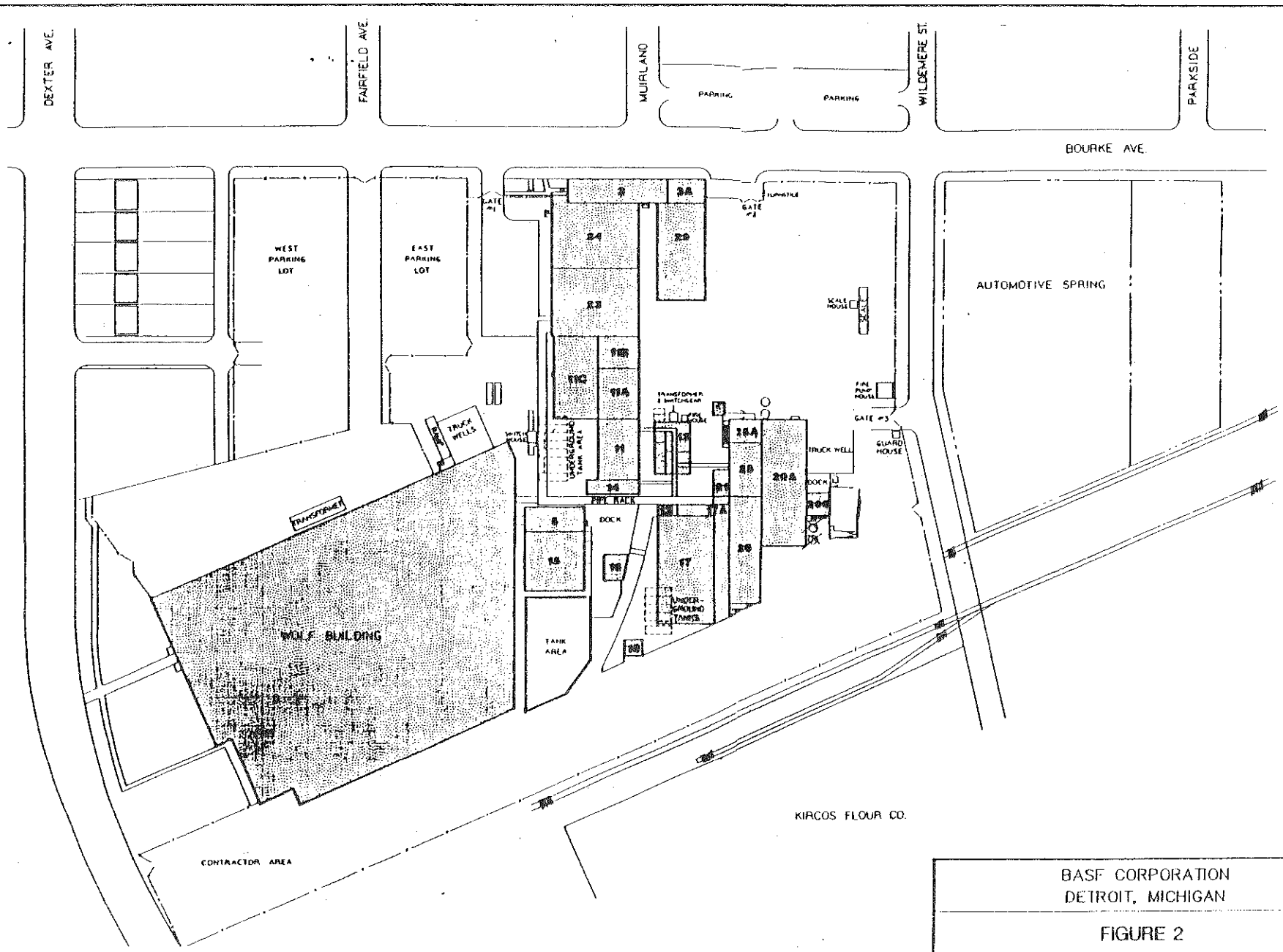
SCALE: 1" = 2,000'

SOURCE: USGS, 1981, 1983

BASF CORPORATION
DETROIT, MICHIGAN

FIGURE 1
FACILITY LOCATION

ENVIRONMENTAL MANAGEMENT, INC.



SOURCE: MODIFIED FROM COMMERCIAL STEEL SKETCH, 1980

NOT TO SCALE

BASF CORPORATION
DETROIT, MICHIGAN

FIGURE 2
FACILITY LAYOUT

PEC ENVIRONMENTAL MANAGEMENT, INC.

TABLE 1

SOLID WASTE MANAGEMENT UNITS (SWMU)

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit*	Status
1	Former Reclamation Area	Yes	Inactive
2	Tank Farm	Yes	Active
3	Reactor Catch Tank	No	Active
4	Resin Wastewater Storage Tank	No	Active
5	Portable Tank Cleaning Area	No	Active
6	Wastewater Treatment Unit	No	Active
7	Caustic Cleaning Area	No	Inactive
8	Small Container Storage Area	No	Active
9	Bailer-Crusher Pad	No	Active
10	Central Drum Storage Area	No	Active
11	Satellite Accumulation Areas	No	Active
12	Paint Waste Staging Area	No	Active
13	Resin Waste Staging Area	No	Active

* A RCRA hazardous waste management unit is one that currently requires or formerly required a RCRA Part A or Part B Permit.

were transported off site for resale; there was no information in the files about Nortru's procedures for handling waste still bottoms. In 1984, during closure, Nortru stopped accepting wastes from off-site sources and removed the still. The tanks were cleaned and inspected, in accordance with EPA closure regulations.

Cook recycled its spent solvents in a smaller Brighton still separate from the recycling still operated by Nortru. Cook pumped spent solvent from the paint manufacturing operation to three tanks in the tank farm (SWMU 2). The solvent was left to settle and then was piped through a small Brighton still into two receiving tanks. The reclaimed solvent was checked for quality before it was stored in a refined-product tank. The Cook still was operated as part of the paint manufacturing process and was not a regulated unit. It ceased operation in 1986.

Until 1986, the facility had 17 underground storage tanks (UST) that were used to store raw materials and reclaimed solvents. The tanks were between 11,000 and 14,000 gallons in capacity. Of the original 17 underground storage tanks, 8 were adjacent to building 11C, 5 were under and adjacent to building 17, and 4 were under the tank farm (SWMU 2). In November 1986, all material from 15 of the original 17 underground storage tanks was removed, those tanks that were not under a building were removed, and the remaining tanks were filled with fly ash. According to the facility representative, a flame ionization detector was used to test the soil gas and soil samples were taken during removal activities. All testing and sampling results indicated no contamination above the detection limits. In 1987, the facility submitted a closure report to the state, but the state did not send the facility an approval or denial of the closure. There are two remaining USTs; one was used for fuel oil storage and is now empty; the other, under building 11C, is used to store water for a water recirculation system that cools equipment.

At one time, there was a development laboratory in building 24 at the facility. The laboratory was closed in 1989, and its operations were moved to another BASF facility. Other operations at the facility include paint, resin, and clear-coat production. In addition, BASF operates a wastewater treatment system, uses a portable cleaning unit to clean manufacturing equiment, and manages an aboveground storage tank farm. These are discussed in more detail below.

2.2.1 Paint Plant

The paint formulation operations are housed on the first and second floors of buildings 11A, 11C, 23, and 24, and on the first, second, and fourth floors of building 11. This operation occupies about 61,000 square feet of the factory and nominally can produce up to 65,000 gallons each week of finished and intermediate products. The plant operates on two shifts, five days a week.

Paint is manufactured by blending polymer resins, pigments, solvents, and other ingredients. The first step disperses dry pigments into a resin blend. Dry pigments are added in high-shear mixers. The coarse mixture from these units then is fed into dispersion mills to be ground fine. The facility has sand mills, attritor mills, and Netszch mills located on the second floor of the plant and ball mills on the first floor of building 11C. The finished, milled aggregate is called tint paste or blending enamel.

Resins, solvents, and pigment dispersion from the mills are combined in the blending area into formulations for different products. Raw materials for use in this process are piped or fed into one of the 75 blending tanks located on the first floor of the plant. At this point in the process, the mixture is a rough blend of all the ingredients that make up the finished product.

Final adjustments to tint and other characteristics are made in the tinting area. Instructions for these adjustments are developed by the quality assurance laboratory on the third floor of buildings 11 and 11A, and color matching is done by experienced tinters whose work area is on the second floor of building 11B. Tint pastes for this purpose are stored on the second floor of buildings 11A and 11C.

The finished product is filtered into shipping containers. The shipping containers are Department of Transportation (DOT) certified 55-gallon drums, 260- or 575-gallon stainless steel tote tanks, or smaller pails for special orders.

2.2.2 Resin Plant

The resin plant is located in buildings 13, 17, 17A, 20, 21, 25, and 25A. This portion of the facility produces polymers dissolved or suspended in organic solvents. The final product is used as an intermediate for paint production at this or other BASF plants. The plant produces two

types of resins: solution resins and emulsion resins. Solution resins are the more common type and have acrylic, polyester, and, occasionally alkyd, urea formaldehyde, and melamine polymers. They are characterized by a clear, often brown-tinted appearance. The solution resins are produced in a concentrated form in reactors. The facility uses two 30,000 pound reactors, one in building 25 and the other in building 25A. The facility also can produce melamine and urea resins in two 2,500-gallon reactors, housed in building 17, and alkyds in one 2,000-gallon and one 2,500-gallon reactor, also located in building 17. The vapors from the reactors pass out a vent line through a condenser and a catch tank (SWMU 3), where entrained particles are captured and stored in a caustic scrubber which reacts with any residual acrylic monomers. From the scrubber, the vapor is released to the air stack. The material from the catch tank is disposed of off site approximately every three months.

In resin manufacturing, measured amounts of solvent and monomers are heated to boiling point and maintained at a specific temperature. Over time, initiators, such as peroxides, and a second monomer mix are added slowly to achieve the correct proportion of each monomer in each polymer chain. The batch is tested periodically for properties which indicate the degree of completeness of the reaction. When the test results fall within a specified range, the batch is dumped into a thinning tank.

In the thinning tank, the concentrated polymer solution is cooled and thinned. Specific measured quantities of solvent are added to the tank before the concentrate is dumped in. Each reactor has thinning tanks. Typically, the thinning tanks have a volume at least 50 percent greater than that of the reactor; they are equipped with water jackets and condensers to aid in cooling.

After the solutions are adjusted in the thinning tanks, the resins are filtered and piped into tanks, drums, totes, or tank wagons. The facility has three block-type plate and frame filter presses for filtering solution resins. These units use burlap cloth and felt paper filters and are precoated with a diatomaceous earth filter aid. Depending upon its use, a resin might be sent to tanks for high-volume, on-site use, or to portable containers for low-volume or off-site uses. The facility has 72 tanks that have a capacity of 10,000 gallons, and 22 tanks that have a capacity of 5,000 gallons. The tanks are housed in buildings 20, 20A, and 25.

The manufacture of emulsion resins is similar to that of solution resins, except that these formulas initially react in water rather than in solvent. The manufacturing process then requires a phase-separation step, which takes place in two tanks housed in building 20A. The organic phase

is returned to a reactor for blending with other semi-finished resins. The water phase is accumulated in a tank in building 17 (SWMU 4) and sent off site for incineration. The finished resin is not thinned with solvent in a thinning tank.

2.2.3 Clear Coat

This process is similar to the manufacture of paint; resins, solvents, and dispersed solids are blended. The finished product is stored in tanks for short periods of time and is transferred to tank wagons for delivery in bulk.

The most noticeable difference between the manufacture of clear coat and paint formulation is in the composition of the dispersed solids. In clear coat, these include insoluble mineral solids such as mica, or completely soluble materials such as cellulosic or polymeric solids. These are all high-shear, disc-type dispersers.

When the formulation is complete, the batch of clear coat is filtered into tanks and shipped off site in tank wagons. Filtration is done either through a plate and frame filter press or through bag filters, or through both.

2.2.4 Other Processes

A portable tank and lid cleaning unit (SWMU 5) is associated with the manufacturing process. The unit consists of a tank holder, a lid holder, two tanks of "once-used" solvent and one tank of fresh solvent. First, once-used solvent is pumped into the tank for gross cleaning, then the tank is rinsed with fresh solvent. The once-used solvent is pumped from the tank being cleaned through aboveground piping to the spent solvent storage tanks in the tank farm (SWMU 2). The fresh solvent used to clean the tank is drained into the once-used solvent tank and is used for gross cleaning of the next tank.

The facility currently operates a wastewater treatment system (SWMU 6) in building 17. Two aboveground tanks (numbered 131 and 132) are used. Tank 132 (10,000-gallon capacity) receives resin/water solvent mixture from the resin and paint manufacturing areas and holds it for 3 days while the emulsion layer settles out. The water is transferred to tank 131 (11,000-gallon capacity), then pumped into a distillation column and condenser to separate the water and the butyl alcohol. The water then is returned to tank 131 for retreatment. The recovered butyl

alcohol is sent to a sister site, refined, and returned for reuse. The distillation column condenser system reduces the ethyl benzene level in the wastewater to the organic chemicals, plastics, and synthetic fibers (OCPSF) limits. The wastewater then is discharged to the sewer system. At the time of the VSI, the condenser was not functioning, and all wastewater was being put in drums and disposed of off site by Laidlaw Disposal.

The tank farm (SWMU 2) contains 21 aboveground tanks, of which three are used for storage of spent solvents and the remaining 18 contain raw materials and monomers. The raw material piping is underground, and the monomer and spent solvent piping is aboveground. Spent solvents are piped to the three tanks in the tank farm from the paint and resin manufacturing area and the portable tank cleaning area (SWMU 5) in building 16. The spent solvent is pumped out of the tanks three times a week, and taken off site by Petro-Chem for reclamation.

Building 15 (SWMU 7) contains a 250-gallon tank formerly used for caustic cleaning of the tank parts and equipment. The spent cleaner was neutralized and discharged to the sewer system. This unit ceased operation in 1989. The facility now uses a portable tank cleaner which uses solvent as a cleaning agent. The portable system is located in building 16 (SWMU 5). The spent solvent from the tank cleaner is pumped to the spent solvent tanks in the tank farm (SWMU 2).

2.3 WASTE GENERATING PROCESSES

During the period before 1984 when the facility operated as both a TSDF and a generator, the wastes generated included 1) still bottoms; 2) ignitable wastes from resin production; and 3) spent solvent wastes that could not be reclaimed on site, such as 1,1,1-trichloroethane and tetrahydrofuran. The wastes were stored on the site for up to a year before being taken off site for disposal (MDNR, 1982a). Most of the waste currently generated is spent solvents from cleaning the tanks and equipment and filtering the paints and resins.

Miscellaneous empty containers such as pails, buckets, and damaged drums that cannot be reconditioned are stored in building 5 (SWMU 8). The containers are crushed, bailed (SWMU 9), and disposed of off site. A pan under the bailer collects any drips or residue, which also is put in drums and taken to the central drum storage area (SWMU 10) for off-site disposal.

The facility operates 10 satellite accumulation areas throughout the plant (SWMU 11) including one in the quality assurance laboratory. They are labeled drums in which small amounts of waste are placed. When the drums are full, they are covered and taken to one of the two staging areas (SWMU 12 and 13). From the staging areas, the drums routinely are taken to a central drum storage area (SWMU 10).

In its 1989 hazardous waste report (BASF, 1989b), BASF listed the following wastes and descriptions:

1) Ignitable spent adsorbents containing paints and resins originally including methyl ethyl ketone, xylene, butyl alcohol, other nonhalogenated solvents, and barium, chrome, and lead compounds (EPA Hazardous Waste Code D001) used in adsorbing various raw materials, wastes, and products.

2) Filtration media and other solid objects saturated with ignitable paints containing methyl ethyl ketone, xylene, butanol, glycol ethers, other nonhalogenated solvents, barium, lead, and chrome compounds (D001) used in filtering the paints, resins, and clear coats.

3) Waste filter paper and filter aid from block plate and frame filter presses saturated with ignitable solution resins containing butyl alcohol, xylene, and aromatic petroleum (D001) used in filtering the paints, resins, and clear coats.

4) Ignitable spent solvent from tank and equipment cleaning containing methyl ethyl ketone, xylene, butyl alcohol, acetone, glycol ethers, and other nonhalogenated solvents, and barium, lead, and chrome compounds (F003,F005, and D001).

5) Out-of-date waste urethane resin, ignitable and reactive (D001) from raw material and product storage areas.

6) Ignitable waste resins, paint, and intermediates removed from inventory because they were off specification, obsolete, or out of date; these waste resins contain butanol, xylene, ethyl benzene, glycol ethers, and barium, lead, and chrome compounds (D001).

7) Waste ignitable paint from filtration and quality-control sampling and testing. Waste includes methyl ethyl ketone, butyl alcohol, xylene, glycol ethers, and other nonhalogenated solvents (D001).

8) Waste liquid solution resins drained from filtration, sampling, and quality-control testing, containing butyl alcohol, xylene, and aromatic solvents making waste ignitable (D001).

9) Ignitable rinsewater from cleaning tanks and equipment from waterborne paint production (new waste in 1989), containing methyl ethyl ketone, glycol ethers, and barium compounds (D001).

10) Solvent-saturated resin/water mixture from liquid/liquid extraction process in wastewater treatment system, containing butyl alcohol, xylene, and aromatic petroleum (ignitable) (D001).

Table 2 identifies the solid wastes managed at the facility and lists their sources and the units in which they are managed.

2.4 RELEASE HISTORY

Several releases have occurred at the facility, some of which were identified during the PA. The first release occurred in 1986, when a 300- to 400-gallon xylene spill occurred in the tank farm (SWMU 2). The facility recently had discharged water to the sewer system from the tank farm, and the valve had been left open. The xylene was released to the sewer system through the open valve (PRC, 1991b). The files contained no record of a response to the spill. A second release occurred on March 14, 1989, when 350 gallons of spent solvent spilled from a tank in the tank farm (SWMU 2). BASF reported the release to the National Response Center, the Michigan Pollution Alerting System, and the local emergency planning commission. BASF subsequently sent a letter to MDNR explaining that a tank overfill occurred while spent solvents were being pumped from a remote source that circumvented the tank's overfill prevention system. BASF took the following steps to prevent a similar spill from occurring: 1) added a lockout device to the feed tank and 2) installed a new overfill cutoff system at the tank. The spill was contained by the tank farm containment device (SWMU 2) and wastes recovered from the spill were sent off site for incineration (BASF, 1989a).

In 1990, a resin-and-solvent material containing xylene and polymers spilled during the charging of a reactor. The unit overflowed when a bolt became caught in the reactor manifold. The fluid spilled into a venting system that discharges to the sewer; normally, the fluid would have flowed to a second reactor. About 1,500 pounds of the solvent were never recovered (PRC, 1991b). The files contained no record of the spill. During the summer of 1991, a 15-gallon spill of spent xylene solvent occurred in the tank farm, staining the side of a tank. The spill was contained in the tank farm (PRC, 1991b). The files contained no record of the spill.

A review of the Wayne County Department of Public Works Air Pollution Control Division (APCD) files revealed the following documented releases.

TABLE 2

SOLID WASTES

Waste/EPA Waste Code	Source	Primary Management Unit*
Ignitable spent adsorbents/D001	Tank and equipment cleaning	SWMUs 8 through 13
Filtration media and other solids/D001	Resin filtration, quality control laboratory	SWMUs 8 through 13
Waste filter paper and filter aid/D001	Paint block plate and frame filter presses	SWMUs 8 through 13
Ignitable spent solvent/F003, F005, D001	Tank and equipment cleaning	SWMUs 1, 2, 3, and 5 through 13
Overstock, out-of-date paints and resins/D001	Paint and resin production	SWMUs 8 through 13
Ignitable waste paints and resins/D001	Filtration quality control laboratory	SWMUs 8 through 13
Ignitable rinsewater/D001	Cleaning waterborne paint production tanks and equipment	SWMUs 4, 5, 6, and 8 through 13
Resin/Water Solvent mixture/D001	Liquid/liquid extraction process of wastewater treatment system	SWMUs 4 and 6
Waste liquid resin solution/D001	Filtration, quality control operations	SWMUs 4 through 13

Note:

* Primary management units refers to a SWMU that currently manages the waste.

On May 4, 1981, APCD notified Cook of a violation (Violation Notice No. 41980) of Article VI, Section 6.6 of the Wayne County Air Pollution Control Regulations (APCR) and required Cook to take precautions immediately to eliminate escape of air contaminants from the tank truck unloading system (APCD, 1981a). Cook responded that it would use a neutralizer for ethyl acrylate in the future (Cook, 1981); in a follow-up inspection, no odor was detected by APCD.

On June 25, 1981, APCD received a complaint that bad odors had come from the BASF facility on June 24, 1981. In a telephone conversation with APCD, a BASF representative explained that the release occurred when an employee operated a process vertical condenser which was vented incorrectly, causing ethyl acrylate to be released into the air (quantity not recorded in the files). The operator shut down the equipment; subsequent cleanup procedures caused the release of more fumes (APCD, 1981b). No further reference to the release was found in the files.

On September 16, 1982, APCD received a complaint and notified Cook of a violation (Violation Notice No. 43645) of Article VI, Section 6.6 of the APCR. APCD required Cook to take precautions immediately to eliminate escape of air contaminants from the liquid waste system into the area sewer system (APCD, 1982). APCD inspected the sewers at the facility on May 10, 1983. That inspection revealed that someone had dumped solvent into the water-holding tank (quantity not recorded in the files). A facility representative stated that he would mark the tank to prevent a recurrence (APCD, 1983). Glasurit responded to Violation Notice No. 43645 on August 19, 1983, explaining that the reported odor came from a wash drum at the facility. Spillage around the drum would collect and decompose before being washed down the sewer during rain storms. The decomposed material was odorous, giving rise to the odors reported as coming from the sewers. The facility corrected the matter by cleaning the area and filling it with gravel so any spills would go immediately to the sewer, rather than collecting and decomposing in the area (Glasurit, 1983). No further reference to the release was found in the files.

On January 16, 1986, APCD received a complaint that odors were coming from the plant. The facility was inspected, and it was determined that an air emission with an intensity rating of #2 odor level had occurred. APCD issued a Violation Notice (No. 46836) (APCD, 1986). Glasurit responded in writing on February 7, 1986, explaining that the release occurred during the unloading of a shipment of 2-ethyl hexyl acrylate. The pump usually used for unloading was not operating, so the pump on the truck was used. That pump leaked, and the leak led to the spill, which entered the sump and then the sewer (quantity not recorded in the files). To prevent a

recurrence, BASF has instructed employees no longer to use any leaking pumps, and BASF will purchase blankets of absorbent material for use in the drainage troughs and sumps (BASF, 1986). No further reference to the release was found in the files.

On August 10, 1987, APCD completed an inspection report form that made reference to a spill on August 9, 1987 of N-butyl acrylate (quantity not recorded in the files). All the spilled chemical had been cleaned up on the day of the spill and disposed of off site. The form indicated that an annual inspection was scheduled for August 12, 1987 (APCD, 1987a). No further reference to the release was found in the files.

On September 18, 1987, the Detroit Fire Department issued a Notice of Violation (No. 63216), requiring BASF to repair the relief valve on a low pressure boiler. The valve had caused a release of Dowtherm J, a heat transfer liquid media made up primarily of diethylbenzene, from the boiler (quantity not recorded in the files). BASF also was requested to provide a closer for the door leading to the boiler room (Detroit Fire Department, 1987). Facility representatives stated that the release occurred because the pressure cutoff switches were plugged with foreign matter. The facility engaged a professional cleaning company to clean the boiler, installed an independent pressure and temperature recorder, established a preventive maintenance schedule including daily inspection and weekly sampling for contamination, and installed a door closer (BASF, 1987b). No further reference to the release was found in the files.

On June 28, 1990 at the BASF facility, there was a release of approximately 1,000 pounds of propylene oxide (Chemical Abstract System No. 75-56-9) to the air with a minor release (less than 10 pounds) to surface water through the sewer system. That same day, BASF verbally notified MDNR's Lansing Environmental Response Division and the National Response Center of the release. On July 3, 1990, BASF sent MDNR written notification of the release, outlining the cause of the release and the corrective action taken. The release was caused by the failure of a gasket between a reactor and its nozzle while propylene glycol was being added to the reactor. All reactors were shut down and the deluge system was activated. The reactor was vented through the roof vent, and the propylene oxide remaining in the reactor was evacuated to the scrubber. Subsequently, BASF replaced several gaskets in the reactor and changed the gasket materials in the propylene oxide system (BASF, 1990). No further reference to the release was found in the files.

2.5 REGULATORY HISTORY

On November 17, 1980, Cook submitted to EPA a RCRA Notification of Hazardous Waste Activity and Part A permit application (Cook, 1980a&b) as both a treatment, storage, and disposal facility and a generator. On January 29, 1982, MDNR inspected the facility and found it to be in violation of the personnel training records requirement of RCRA (40 CFR 265.16) (MDNR, 1982b). On February 24, Cook sent a letter to MDNR indicating that the violation had been corrected (Cook, 1982). On March 8, 1982, MDNR confirmed its receipt of the letter and returned Cook to a status of compliance (MDNR, 1982c).

On January 26, 1981, MDNR notified Cook that the company was in violation of Section 3004 of RCRA (42 USC 6924) but that, based upon information acquired in a telephone conversation with a facility representative, MDNR had accepted the explanation for the violation and the corrective action taken. MDNR also notified the facility that no further response was necessary (MDNR, 1981).

On June 13, 1982, MDNR acknowledged Cook's interim status (MDNR, 1982d). On September 21, 1983, MDNR inspected the facility (which by then belonged to Glasurit) and observed the following violations: 1) no inspection log was being maintained (40 CFR 265.15); 2) personnel training records did not include job titles and job descriptions (40 CFR 265.16); 3) the barrel storage area for paint waste did not have adequate aisle space (40 CFR 265.35); 4) barrel storage practices did not prevent damage to barrels (40 CFR 265.173); 5) Cook's contingency plan lacked a physical description of emergency equipment (40 CFR 265.52); 6) no operating record was kept for the barrels of waste generated by Glasurit (40 CFR 265.73); 7) no closure plan was available for inspection (40 CFR 265.112); 8) not all facility records were available for inspection because of the deficiencies specified above (40 CFR 265.74); 9) ignitable waste was stored less than 50 feet from the plant property line (40 CFR 265.176); 10) barrels and containers were not marked with the accumulation date or with the words "hazardous waste" (40 CFR 262.34); and 11) the barrel storage facility was not provided with impervious secondary containment (Part V Rules of Act 245, the Michigan Water Resources Act of 1929, as amended) (MDNR, 1983a). Glasurit responded to MDNR and addressed all violations by January 26, 1984 (Glasurit, 1984a&c).

On January 6, 1984, Glasurit submitted a closure plan to EPA regarding closure of the hazardous waste facility (Glasurit, 1984b). On May 25, 1984, EPA approved the closure plan and requested certification of closure once completed (EPA, 1984a). Glasurit submitted certification

of closure to EPA on May 30, 1984 (Glasurit, 1984d). EPA confirmed receipt of the certification of closure and released Glasurit from financial requirements on June 19, 1984 (EPA, 1984b).

On February 7, 1985, MDNR again inspected the facility. The following violations were found during the inspection: 1) several drums of hazardous waste were not marked with the date of accumulation (40 CFR 262.34); 2) the hazardous waste accumulation tank was not marked with the words "hazardous waste" (40 CFR 262.34); 3) daily and weekly inspections of the hazardous waste tank were not being conducted (40 CFR 265.194); 4) employee training descriptions were inadequate (40 CFR 265.16); 5) contingency plans had not been submitted to local agencies (40 CFR 265.53); and 6) manifest files contained a copy of a manifest that should have been forwarded to MDNR (MDNR, 1985a). Glasurit responded with a letter documenting the actions taken to correct the violations (Glasurit, 1985a). In response, MDNR accepted the steps taken to correct the violations (MDNR, 1985b).

On July 23, 1987, MDNR inspected the facility, which by then belonged to BASF. The following violations were identified: 1) manifests were not signed by the generator (Act 64, R299.9304, Michigan's Hazardous Waste Management Act of 1979); 2) accumulation dates and hazardous waste codes were not marked clearly on storage containers (Act 64, R299.9306); 3) containers storing hazardous wastes were not marked with the words "hazardous waste" (Act 64, R299.9306); 4) many of the drums observed were not stored closed (40 CFR 265.173); 5) because repainting was being done, storage tanks were not labeled with the words "hazardous waste" (40 CFR 262.34); 6) the indoor tank was not located in an area that provided the required secondary containment (Act 64, R299.9615); and 7) updated RCRA training had not been held (MDNR, 1987a). BASF responded to the list of violations by discussing changes in the instructions for completing waste manifests and by indicating that its response to the other violations would be delayed (BASF, 1987a). MDNR accepted BASF's waste manifest instruction changes (MDNR, 1987b). BASF responded to the remaining violations by outlining the steps taken to correct the violations (BASF, 1987c).

In response to the reported spill of spent solvent on March 14, 1989 (see Section 2.4 above), the Detroit Department of Health inspected the facility on May 2, 1989. No violations were observed during the inspection (Detroit Department of Health [DOH], 1989).

On September 11, 1989, MDNR notified BASF of discrepancies found in manifests for shipments to Illinois. MDNR outlined the requirements for out-of-state shipments and requested

that BASF submit copies of all earlier manifests for out-of-state shipments (MDNR, 1989a). On October 9, 1989, MDNR acknowledged receipt and acceptance of BASF's compliance regarding wastes shipped out of the state (MDNR, 1989b).

On February 6, 1991, an anonymous complaint was recorded on a PEAS (definition of acronym unknown) Incident Report Form for the BASF facility. The complaint indicated that approximately fifty 55-gallon drums at the BASF facility had no hazardous waste labels and no start date of accumulation on them. The action recommended on the form was a routine hazardous waste inspection by the City of Detroit Department of Health (Anon., 1991). On February 19, 1991, the Detroit Department of Health inspected the facility and observed the following violations: 1) containers and tanks of hazardous waste were not marked with the words "hazardous waste," the hazardous waste number, and the start date of accumulation; 2) contingency plans were not updated; 3) waste storage tank systems were not designed, constructed, operated, and maintained according to Michigan regulations (Act 207, Michigan Flammable Liquid Regulations); 4) the waste storage system was not diked, paved, curbed, or otherwise enclosed to provide 150 percent secondary containment; 5) because the waste storage system did not meet secondary containment requirements, the facility was required to conduct annual leak tests or develop an annual assessment plan to meet the requirements of the regulations, and these steps had not been taken (40 CFR 264.191 and 264.193); and 6) the waste storage tank system was not upgraded to meet secondary containment requirements before it had been in use for 15 years (40 CFR 265.193) (DOH, 1991a). BASF responded to the notice of violations by outlining the steps taken to comply with the regulations (BASF, 1991). DOH, however, did not consider that all the violations were resolved adequately and requested a response to the remaining violations by June 8, 1991 (DOH, 1991b). No further correspondence on this issue was found in the files.

On July 1, 1991, EPA notified BASF of a violation of RCRA manifest regulations that had been discovered during an inspection of a shipment of hazardous wastes from BASF. EPA requested that BASF submit a written description of the measures taken to ensure that manifest requirements are met in the future. EPA also asked BASF to submit copies of past manifests documenting shipments since January 1, 1991 (EPA, 1991). No further correspondence on this issue was found in the files.

The BASF facility's air emissions are regulated by the Wayne County Department of Public Works, Air Pollution Control Division (APCD). A detailed compliance inspection report from a July 11-12, 1988 APCD inspection of the facility contained copies of 87 certificates of

operation for process equipment. There are certificates for 5 boilers, 12 lab wash stations, 3 cleaning stations, numerous storage and mixing tanks, various mills, spray booths, and other equipment (APCD, 1988).

On December 8, 1985, APCD inspected the facility and issued a Violation Notice (No. 46803) for failure to obtain a permit for installing a clear-coat blending tank (APCD, 1985).

APCD completed an annual inspection of the facility on August 12-13, 1987. Its representatives inspected 96 pieces of equipment (APCD, 1987b).

On December 18, 1989, APCD made an annual equipment inspection at the facility. None of the 76 certificates of operation in force at that time was changed or canceled (APCD, 1989).

In December 1990, BASF notified MDNR of its intent to remove asbestos from the piping throughout the buildings. This was completed by the end of December, 1990 and was verified by MDNR (MDNR, 1990).

BASF currently is permitted as a large-quantity generator of hazardous wastes that it stores for fewer than 90 days.

2.6 ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and ground water in the vicinity of the BASF facility.

2.6.1 Climate

The climate in Detroit and the surrounding area is characterized by evenly distributed precipitation throughout the year. The average annual precipitation is 30 to 33 inches. Average monthly temperatures range from a high of 72 degrees Fahrenheit (°F) in July to a low of 23°F in January. Weather in the vicinity is controlled by location in relation to major storm tracks and by proximity to, and influence of, the Great Lakes. Typical winter storms bring periods of rain or snow. Summer storms usually pass to the north; they often are associated with brief showers and sometimes thunder showers with high winds. The Great Lakes mitigate most climatic extremes (Erickson, 1990).

Because of the topography of the area, the moist northwest air dries before it reaches the Detroit area. For example, summer showers coming from the northwest often dissipate before reaching Detroit. The winter northwesterly winds bring snow to all of Michigan, but rarely in accumulations of measurable depth in the Detroit area. The southeasterly winds generally contain more moisture. In any season, the area's heaviest precipitation is brought on by southeasterly winds. The one-year, 24-hour rainfall for this area is about 2 inches (NOAA, 1980).

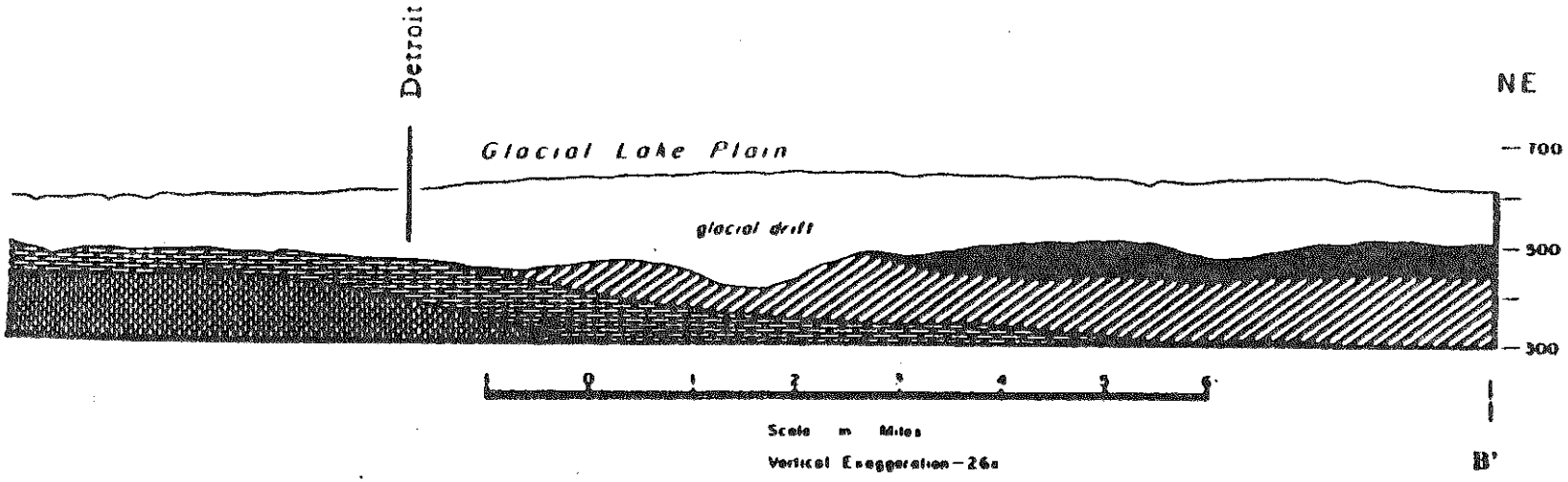
2.6.2 Flood Plain and Surface Water

The closest surface waters, the Detroit River and one of its tributaries, the River Rouge, are located more than 4 miles from the facility. The River Rouge flows into the Detroit River, which then flows northeastward into Lake St. Clair. The Detroit River is Detroit's primary drinking-water source. The river's 100-year flood plain follows the adjacent 580-foot contour. The facility is situated at an average elevation of 610 feet, roughly 30 feet higher than the 100-year flood plain (USGS, 1974).

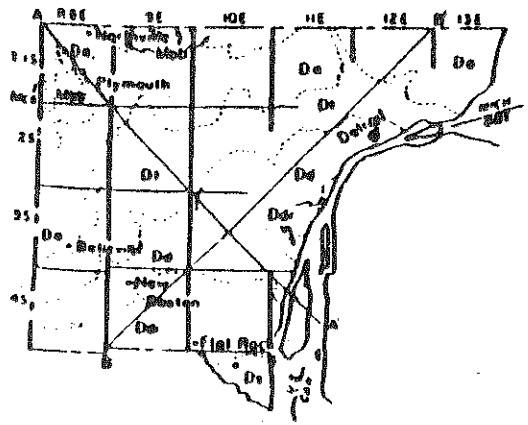
2.6.3 Geology and Soils

Because site-specific information was not available, regional geology and soil information is presented. Figure 3 illustrates a generalized geologic cross section of the Detroit area. The surface geology of the Detroit area is characterized by a mosaic of glacial and organic deposits. Present landforms are the result of Pleistocene epoch glaciation and subsequent deposition and erosion. Primarily, the present landforms consist of materials deposited during the Cary substage of the Wisconsin Glacial stage; however, the hardpan encountered just above the bedrock in downtown Detroit occupies part of an ancient glacial lake bed that slopes gently to nearly flat terrain that has been incised by currently flowing rivers and streams. Glacial deposits over bedrock range in thickness from 120 to 200 feet in this area. These deposits consist mainly of layers of glacial till of varying thicknesses and a thick sequence of lacustrine clays and silts. Figure 4 illustrates the distribution of permeable surface deposits in southeast Michigan.

The bedrock of Detroit consists of approximately 830 feet of consolidated and cemented Middle Devonian limestone from the Paleozoic era. This structural feature underlies all of Michigan and portions of neighboring states. Within this structural basin, the sedimentary rocks dip at an angle of less than 1 degree toward the center of the basin, which is located beneath the central portion of the southern peninsula (Mozola, 1969).



LEGEND



- COLDWATER SHALE / SUNBURY SHALE
- BEREA SANDSTONE / BEDFORD SHALE
- ANTRIM SHALE
- TRAVERSE GROUP
- DUNDEE LIMESTONE
- DETROIT RIVER DOLOMITE
- SYLVANIA SANDSTONE
- BASS ISLANDS GROUP

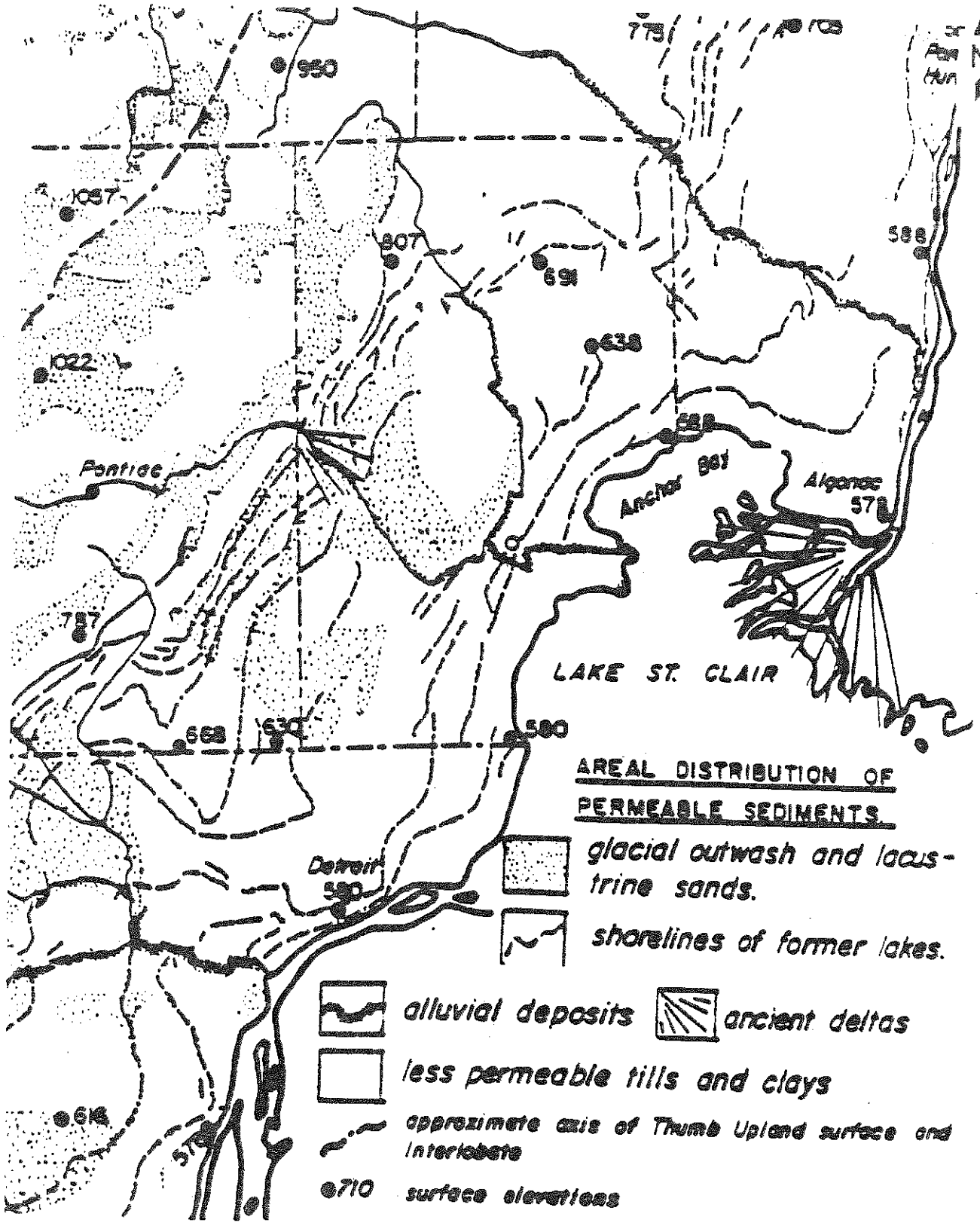
SOURCE: MODIFIED FROM MOZOLA SKETCH, 1969

BASF CORPORATION
DETROIT, MICHIGAN

FIGURE 3

GEOLOGIC STRUCTURE SECTION

PRC ENVIRONMENTAL MANAGEMENT, INC.



SCALE NOT AVAILABLE

SOURCE: MODIFIED FROM MOZOLA SKETCH, 1968

BASF CORPORATION
DETROIT, MICHIGAN

FIGURE 4
DISTRIBUTION OF PERMEABLE SURFACE DEPOSITS IN SOUTHEAST MICHIGAN

ENVIRONMENTAL MANAGEMENT, INC.

Soils of the area surrounding the facility are mainly of the Wasepi-Gilford-Boyer soil association. This type of soil is characterized as having nearly level to sloping, very poorly drained, somewhat poorly drained, and well drained soils that have a coarse-textured or moderately coarse-textured subsoil. Permeability is moderately rapid, and water capacity is low. About 50 percent of the soils in this association are poorly drained, 25 percent are very poorly drained, and 15 percent are well drained. The remaining 10 percent are minor soils (U.S. Soil Conservation Service, 1977).

2.6.4 Ground Water

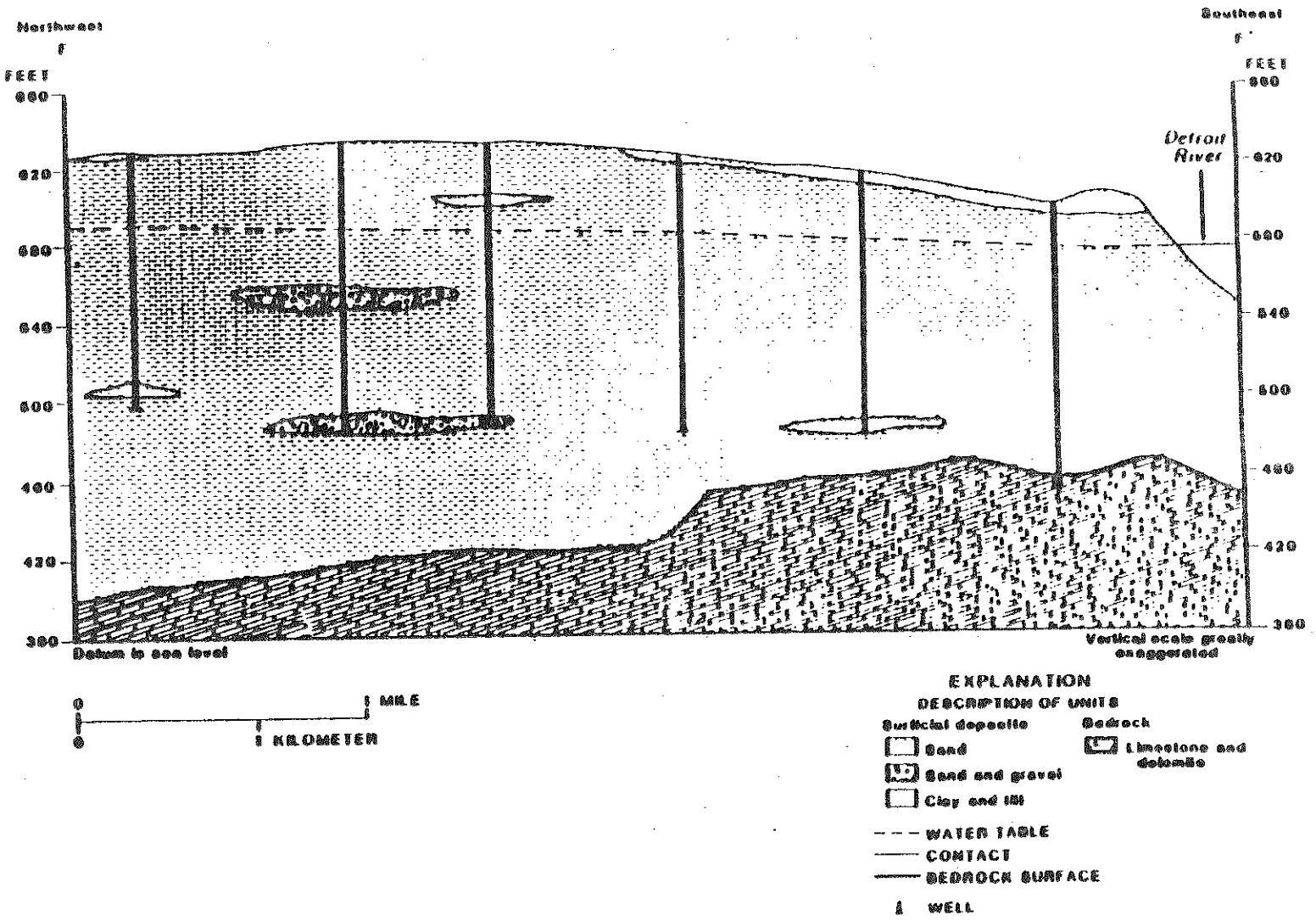
No site-specific information pertaining to ground water was available during the PA/VSI; however, a description of ground-water conditions based on regional information follows.

Ground water occurs beneath the site in water-table conditions at approximately 40 feet beneath the surface. Generally, it flows toward the Detroit River. However, because Detroit is located on a glacial lake plain consisting primarily of silts and clays, the area is not favorable for the development of wells that provide moderate-to-large yields. Storage capacities are limited and well failures can be expected during prolonged droughts (USGS, 1989). Although dry holes occur with high frequency on the lake plain, small domestic supplies within intermittent zones of relatively greater permeability than the surrounding clay and silt deposits normally are possible (see Figure 5). These intermittent zones occur under confined conditions, and both flowing and nonflowing wells can be expected. Southeast of the junction of the lake plain with the glacial moraines (see Figure 6), the frequency of occurrence, thicknesses, and extent of these confined ground-water-bearing zones decreases as the formations near the Detroit River.

2.7 RECEPTORS

The facility is in a mixed industrial and residential area, with homes and schools located less than 1/4 mile from the facility. Because the facility is located in the city of Detroit, which has a population of 1,028,000 (U.S. Department of Commerce, 1991), there is a significant population in close proximity.

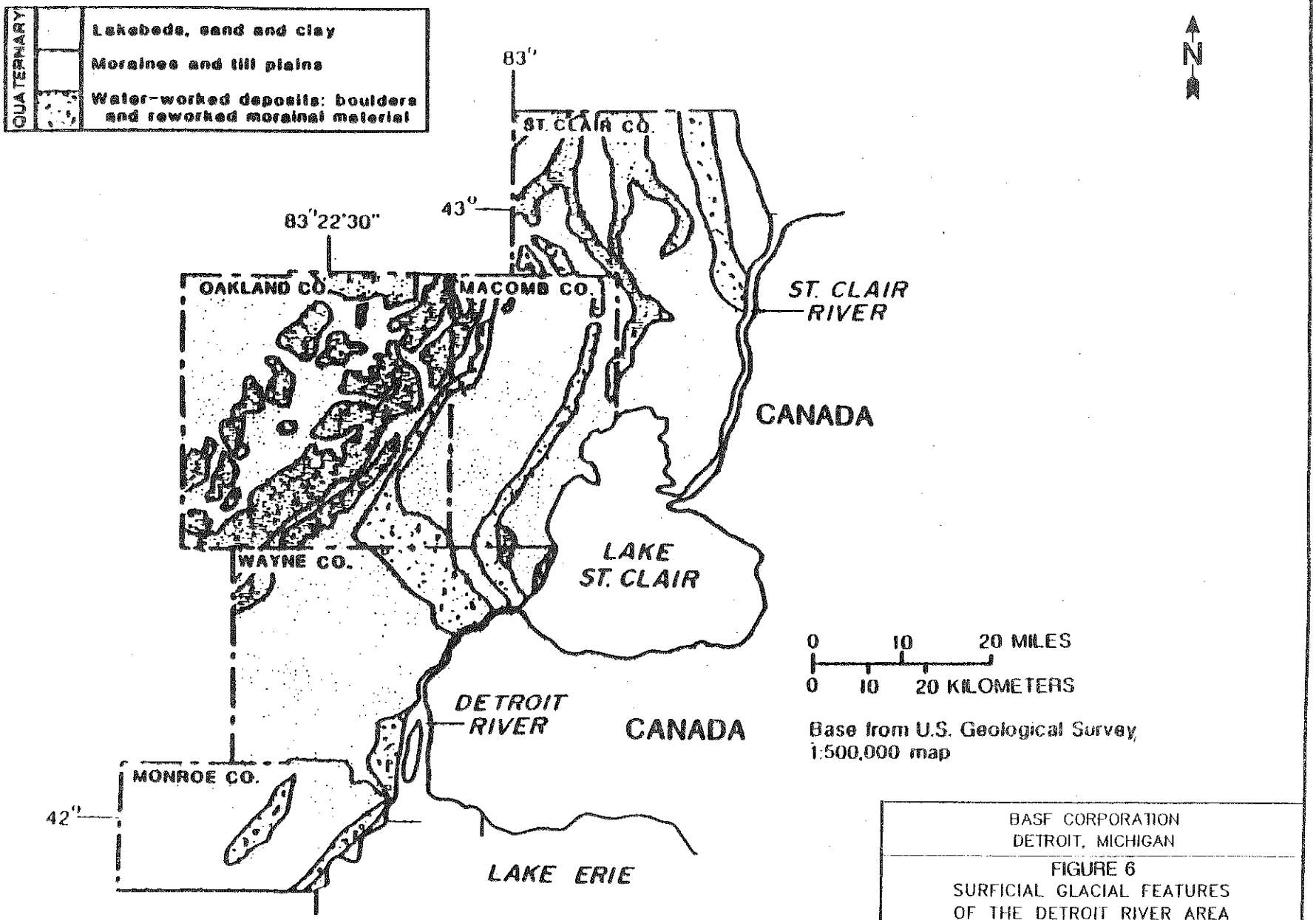
The threat to receptors through the ground-water, surface-water, air, and soil pathways is low to moderate. The BASF facility does not discharge directly to surface water from the facility; all wastewater discharges are sealed in drums, pumped and disposed of off site as hazardous



BASF CORPORATION
DETROIT, MICHIGAN

FIGURE 5
REPRESENTATIVE GEOLOGICAL
CROSS SECTION OF THE DETROIT AREA

PRC ENVIRONMENTAL MANAGEMENT, INC.



BASF CORPORATION
DETROIT, MICHIGAN

FIGURE 6
SURFICIAL GLACIAL FEATURES
OF THE DETROIT RIVER AREA

PRC ENVIRONMENTAL MANAGEMENT, INC.

wastes, or treated and sent through the sewer system to a publicly owned wastewater treatment plant and then discharged into the Detroit River. The nearest surface-water bodies are the Detroit River and the River Rouge, both more than 4 miles south of the facility. The existence of secondary containment and the distance to surface water preclude the possibility of a release of hazardous constituents to surface water.

Ground water is not used as a drinking-water source or for industrial purposes; all local water, including Detroit's drinking water, is obtained from the Detroit River (PRC, 1991a). No drinking water wells located within 2 miles of the facility were identified. Therefore, even if the facility were to affect the ground water adversely, the potential for human exposure to ground-water contamination would be low.

The potential for releases to air is moderate. Releases have occurred several times in the past, and residents in the area surrounding the facility have reported odors emanating from the facility. In most cases, the facility has taken corrective action to prevent repeat occurrences. Because of the close proximity of the facility to residences and schools, the threat to those receptors should be considered moderate.

There are no sensitive environments within 2 miles of the site. The BASF facility is monitored 24 hours per day by a security system, and access to the site is restricted by a locked and guarded gate.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the 13 SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC's observations.

SWMU 1	**Former Reclamation Area**
Unit Description:	The unit consists of an area in building 20A which housed the Nortru still and 19 storage tanks. Nortru operated a spent solvent reclamation still in the building until 1984. While the reclamation operation was active, 10 of the tanks were used to store spent solvents, 2 stored still bottoms, and 7 contained reclaimed solvent. In 1984, the reclamation operation ceased, the facility was closed according to an approved closure plan, and the still was removed. The area is currently the site of the resin and clear-coat manufacturing and storage operation run by BASF.
Date of Startup:	The date of startup is unknown.
Date of Closure:	The unit has been inactive since 1984.
Wastes Managed:	Waste solvents containing acetone, tetrahydrofuran, ethyl acetate, methylene chloride, toluene, methanol, ethylene diamine, hexane, xylene, tricholorethane, and Stoddard solvent were managed by this unit.
Release Controls:	The tanks are located inside a building that had a concrete floor and walls.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.

Observations:	The 19 tanks used by the Nortru operation are still present and in use in building 20A. The tanks have been sandblasted and relined and currently are used to hold product.
SWMU 2	**Tank Farm**
Unit Description:	The unit consists of 21 aboveground tanks with a capacity of approximately 2,900 gallons each. The tank farm is surrounded by a 6-foot-high concrete wall and has a concrete floor covered with gravel. Eighteen of the tanks are used for storage of raw material. The three remaining tanks contain spent solvent. These three tanks are surrounded by a second containment wall made of steel. Each spent solvent tank stands on a concrete pedestal approximately 1-1/2 feet thick and 5 feet high. The tanks are emptied three times a week. The contents are taken off site by Petro-Chem for disposal. The spent solvent piping is above ground; the raw material piping is below ground. Photograph 1 in Attachment A shows the spent solvent tanks in the unit.
Date of Startup:	The unit began operating in 1967.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	Ignitable spent solvents, rinse water, and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	The three spent solvent tanks in the tank farm are surrounded by a steel wall; the entire tank farm is surrounded by a 6-foot-high concrete wall. The floor of the unit is concrete covered with gravel.
History of Documented Releases:	On March 14, 1989, there was a release of 350 gallons from the spent solvent tanks. The spill was contained within the tank farm. In the summer of 1991, a 15-gallon spill from a spent solvent tank was contained but stained the side of the tank.

Observations:	One side of one of the spent solvent tanks was stained. No cracks, other defects, or damage were observed in the tanks.
SWMU 3	**Reactor Catch Tank**
Unit Description:	The unit consists of a raised catch tank inside building 17A that receives any entrained material vented from the reactor vessels. The material in the catch tank is pumped out approximately every 3 months. Vacuum trucks empty the tank and dispose of the wastes off site.
Date of Startup:	The date of startup is unknown.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	Ignitable spent solvents and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	The unit is located inside building 17A on a concrete floor. PRC observed no other containment.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.
Observations:	There is no evidence of releases from the unit. The contents of the unit were not observed.
SWMU 4	**Resin Wastewater Storage Tank**
Unit Description:	The unit consists of a tank in building 17. The tank stores the resin water phase waste from the emulsion resin manufacturing process. The waste is pumped out of the tank and taken off site for incineration.
Date of Startup:	The date of startup is unknown.

Date of Closure:	This unit is currently in operation.
Wastes Managed:	Waste liquid resin solution is managed by this unit.
Release Controls:	The tank is located inside a building that has a concrete floor and walls.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.
Observations:	This unit was not observed during the VSI.

SWMU 5 **Portable Tank Cleaning Area**

Unit Description:	The unit consists of a portable tank cleaning machine used to clean storage tanks and covers. The cleaner consists of a tank holder, two tanks of "once-used" solvent, and one tank of fresh solvent. "Once-used" solvent is pumped into a tank for gross cleaning, and fresh solvent then is pumped in for final cleaning. The spent solvents from cleaning are pumped to the spent solvent tanks in the tank farm.
Date of Startup:	The unit began operating in 1989.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	Ignitable spent solvents, waste paint and resins, rinse water, and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	This unit is located inside a building and stands on a concrete floor. PRC observed no other containment.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.

Observations:	The unit appears to be in good condition; there is no evidence of releases from the unit.
SWMU 6	**Wastewater Treatment Unit**
Unit Description:	The unit consists of a wastewater pretreatment installation in building 17. There are two aboveground tanks and a distillate column and condenser which separate butyl alcohol and water. The plant receives wastewater from the resin and paint operations and reactors and processes it through the distillate column. The butyl alcohol is sent off site for reclamation, and the remaining wastewater is processed through the system again before being released to the sewer system.
Date of Startup:	The date of startup is unknown.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	Rinse water and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	The unit is located inside a building that has concrete walls and floors.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.
Observations:	No cracks, other defects, or damage were observed in the tanks. At the time of the VSI, the column was not functioning, and treated wastewater was being sealed in drums and disposed of off site by Laidlaw.
SWMU 7	**Caustic Cleaning Area**
Unit Description:	The unit consists of an area inside building 15 that houses a 250-gallon tank for cleaning machinery and equipment with a caustic solution. The

	spent caustic cleaner was neutralized and released to the sewer system. Photograph 2 in Attachment A shows the unit.
Date of Startup:	The date of startup is unknown.
Date of Closure:	This unit ceased operation in 1989 or 1990.
Wastes Managed:	Neutralized spent caustic cleaner, ignitable spent solvents, waste paint and resins, rinse water, and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	The unit is inside a building that has a concrete floor and walls.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.
Observations:	The unit is no longer in operation.
SWMU 8	**Small Container Storage Area**
Unit Description:	The small container storage area is located inside building 5. Empty buckets, pails, kegs, damaged drums, and other small containers are stored there awaiting disposal. The containers were used to store raw materials or paint for quality checks. Periodically, the containers are crushed, bailed, and disposed of off site. Photograph 3 in Attachment A shows the unit.
Date of Startup:	The date of startup is unknown.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	Ignitable spent adsorbents, filtration media, miscellaneous solid objects, ignitable spent solvents, waste paint and resins, and resin/water solvent mixture wastes are managed by this unit.

Release Controls:	The unit stands on a concrete floor.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.
Observations:	There is no evidence of releases from the unit. More than 25 empty containers of various sizes were observed in the unit during the VSI. The containers were stacked and, when possible, closed.
SWMU 9	**Bailer-Crusher Pad**
Unit Description:	The unit consists of a concrete pad at the south end of building 20 where the bailer-crusher is located. The bailer crushes and bails the small containers stored in building 5 (SWMU 5). The machine stands above a pan that catches any material that spills or leaks from the small containers. The material in the pan is pumped into 55-gallon drums that then are stored in the central drum storage area (SWMU 1).
Date of Startup:	The unit began operating in 1987.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	Ignitable spent adsorbents, filtration media, miscellaneous solid objects, ignitable spent solvents, waste paint and resins, and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	The unit stands on a concrete pad; wastes or solvents are contained by a metal catch pan.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.
Observations:	The unit was not observed during the VSI.

SWMU 10	**Central Drum Storage Area**
Unit Description:	The unit is a slightly sunken concrete pad approximately 40 feet by 60 feet with 3-foot-high containment walls on three sides and a 4-foot-high wall on the side that abuts building 20B. A ramp leads down into the area. The drums are stacked three high on pallets. The unit contains no drains; rather, any storm water or material accumulated is inspected visually for contamination and then pumped either into drums for off-site disposal if contamination exists or to the POTW if no contamination is believed to exist. Photograph 4 in Attachment A shows this unit.
Date of Startup:	The unit began operating in 1987.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	Ignitable spent adsorbents, filtration media, miscellaneous solid objects, waste filter paper, ignitable spent solvents, overstocked and out-of-date resins and paints, waste paint and resins, rinse water, and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	The unit has a concrete, diked floor with 3- to 4-foot-high containment walls.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.
Observations:	The concrete walls and floors show no visible cracks or damage. The drums were in good condition. There is no evidence of a release from the unit.

SWMU 11	**Satellite Accumulation Areas**
Unit Description:	This unit consists of 10 satellite accumulation areas, where waste is placed in drums to await removal to either staging area. Photographs 5 and 6 in Attachment A show examples of the unit.
Date of Startup:	The date of start up is unknown.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	Ignitable spent adsorbents, filtration media, miscellaneous solid objects, waste filter paper, ignitable spent solvents, overstocked and out-of-date resins and paints, waste paint and resins, rinse water, and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	Release controls vary, depending upon the location of each satellite. All areas are inside buildings that have concrete floors.
History of Documented Releases:	No documented releases from this unit were identified during the PA/VSI.
Observations:	There was no evidence of releases from the accumulation areas. The drums observed at the units appeared to be in good condition.
SWMU 12	**Paint Waste Staging Area**
Unit Description:	The unit, located in building 24, consists of an area approximately 10 feet by 5 feet. Drums are placed on a raised steel grate surrounded by a steel base with 3-inch-high walls. The capacity of the unit is eight drums, four containing solid wastes and four containing liquid wastes. Photograph 7 in Attachment A shows this unit.
Date of Startup:	The date of start up is unknown.

Date of Closure:	This unit is currently in operation.
Wastes Managed:	Ignitable spent adsorbents, filtration media, miscellaneous solid objects, waste filter paper, ignitable spent solvents, overstocked and out-of-date resins and paints, waste paint and resins, rinse water, and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	The unit is a raised steel grate with a steel floor and a 3-inch-high steel border for containment.
History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.
Observations:	At the time of the VSI, the unit contained five drums. The drums were closed, labeled, and dated, and they appeared undamaged.

SWMU 13 **Resin Waste Staging Area**

Unit Description:	The unit, located in building 17A, consists of an area approximately 10 feet by 5 feet. Drums are placed on a raised steel grate surrounded by a steel base with 3-inch-high walls. The capacity of the unit is eight drums, four containing solid wastes and four containing liquid wastes.
Date of Startup:	The date of startup is unknown.
Date of Closure:	This unit is currently in operation.
Wastes Managed:	Ignitable spent adsorbents, filtration media, miscellaneous solid objects, waste filter paper, ignitable spent solvents, overstocked and out-of-date resins and paints, waste paint and resins, rinse water, and resin/water solvent mixture wastes are managed by this unit.
Release Controls:	The unit is a raised steel grate with a steel floor and a 3-inch-high steel border for containment.

History of Documented Releases:	No documented releases from the unit were identified during the PA/VSI.
Observations:	At the time of the VSI, the unit contained no drums. There was no evidence of releases from the unit.

4.0 AREAS OF CONCERN

PRC identified no AOCs during the PA/VSI.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified 13 SWMUs at the BASF facility; no AOCs were identified. Background information on the facility's location, operations, waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is discussed in Section 3.0. AOCs are discussed in Section 4.0. Following are PRC's conclusions and recommendations for each SWMU. Table 3 identifies the SWMUs at the BASF facility and suggests further action.

SWMU 1 **Former Reclamation Area**

Conclusions: This unit has a low potential for release of hazardous wastes or hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because the unit is no longer operational and is inside a building that offers secondary containment in the form of a concrete floor and walls. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 2 **Tank Farm**

Conclusions: This unit has a low potential for release of hazardous wastes and hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because the unit has a concrete floor surrounded by a 6-foot-high concrete wall that acts as secondary containment. In addition, the spent solvent tanks are surrounded by a second containment wall about 1-1/2 feet high and stand on a steel floor. Three releases from this unit have been documented. Two were contained within the unit, and the material was recovered. The first spill resulted in the release of more than 300 gallons of xylene to the sewer system. Since then, added precautions have been taken to ensure that such spills will not be repeated.

Recommendations: No further action is recommended at this time.

TABLE 3

SWMU SUMMARY

	SWMU	Operational Dates	Evidence of Release	Suggested Further Action
1.	Former Reclamation Area	Unknown to 1984	None	No further action
2.	Tank Farm	1967 to present	Stain on side of tank. Releases occurred in 1986, 89, and 91. The 1986 spill resulted in the release of xylene to the sewer system	No further action
3.	Reactor Catch Tank	Unknown to present	None	No further action
4.	Resin Wastewater Storage Tank	Unknown to present	None	No further action
5.	Portable Tank Cleaning Area	1989 to present	None	No further action
6.	Wastewater Treatment Unit	Unknown to present	None	Install secondary containment
7.	Caustic Cleaning Area	Unknown to 1989 or 1990	None	No further action
8.	Small Container Storage Area	Unknown to present	None	No further action
9.	Bailer-Crusher Pad	1987 to present	None	No further action
10.	Central Drum Storage Area	1987 to present	None	No further action
11.	Satellite Accumulation Areas	Unknown to present	None	No further action
12.	Paint Waste Staging Area	Unknown to present	None	No further action
13.	Resin Waste Staging Area	Unknown to present	None	No further action

SWMU 3 **Reactor Catch Tank**

Conclusions: This unit has a low potential for release of hazardous wastes or hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because the unit is inside a concrete building, where the walls and floor offer secondary containment. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 4 **Resin Wastewater Storage Tank**

Conclusions: This unit has a low potential for release of hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because the unit is inside a concrete building, where the walls and floor offer secondary containment. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 5 **Portable Tank Cleaning Area**

Conclusions: This unit has a low potential for release of hazardous waste or hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because the unit is stored and used inside concrete buildings, where the concrete floor and walls offer secondary containment. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 6 **Wastewater Treatment Unit**

Conclusions: This unit has a moderate potential for release of hazardous waste or hazardous constituents to ground water, surface water, air, and on-site soils. The potential is moderate because, although the unit is located inside

soils. The potential is moderate because, although the unit is located inside a concrete building, the concrete floor and walls offer minimal secondary containment, given the volume of waste that is stored in the tanks. There is no indication that releases from the unit have occurred, however, if a release occurred, the waste could migrate to building drains and possibly to on-site soils.

Recommendations: PRC recommends that the facility install secondary containment.

SWMU 7 **Caustic Cleaning Area**

Conclusions: This unit has a low potential for release of hazardous wastes or hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because the unit is inside a building that has a concrete floor and walls for secondary containment and because the unit is no longer in operation. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 8 **Small Container Storage Area**

Conclusions: This unit has a low potential for release of hazardous wastes or hazardous constituents to ground water, surface water, air, and on-site soil. The potential is low because the unit is inside a building that has a concrete floor. The building acts as secondary containment. In addition, the containers are empty and only residual wastes are present. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 9 **Bailer-Crusher Pad**

Conclusions: This unit has a low to moderate potential for release of hazardous wastes or hazardous constituents to ground water, surface water, air, and on-site soil.

The potential is low to moderate because the unit is located on a concrete pad away from the paved area of the facility and has no secondary containment except the concrete floor and the pan used to collect dripping and leaking wastes; however, the unit manages empty containers that contain only small amounts of residual wastes. The unit was not observed during the VSI. There is no indication that release from this unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 10 **Central Drum Storage Area**

Conclusions: This unit has a low potential for release of hazardous wastes and hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because the unit is located on a concrete floor and is surrounded by a 3- to 4-foot-high berm for secondary containment. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 11 **Satellite Accumulation Areas**

Conclusions: This unit has a low potential for release of hazardous waste or hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because all the areas have secondary containment in the form of a concrete floor and walls. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 12 **Paint Waste Staging Area**

Conclusions: This unit has a low potential for release of hazardous wastes or hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because the unit is inside a concrete building, where the

walls and floor offer secondary containment. The unit itself provides secondary containment in the bordered steel pan which supports the grate under the drums. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

SWMU 13 **Resin Waste Staging Area**

Conclusions: This unit has a low potential for release of hazardous wastes or hazardous constituents to ground water, surface water, air, and on-site soils. The potential is low because the unit is inside a concrete building, where the walls and floor offer secondary containment. The unit itself provides secondary containment in the bordered steel pan which supports the grate under the drums. There is no indication that releases from the unit have occurred.

Recommendations: No further action is recommended at this time.

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APCD, 1986, Violation Notice No. 46836 for the emission of an air contaminant in such a quantity as to cause an odor level with an intensity rating of #2 (January 16).

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APCD, 1989, Inspection Report (December 18).

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Cook, 1982, Letter to MDNR indicating compliance with the personnel training records requirement of RCRA (February, 24).

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Glasurit, 1984b, Letter to EPA announcing intended closure of hazardous waste facility (January, 6).

Glasurit, 1984c, Letter to MDNR concerning tank status and including notification of closure and closure costs (January 26).

Glasurit, 1984d, Letter to EPA certifying closure (May 30).

Glasurit, 1985a, Letter to MDNR listing actions taken to correct violations observed during February 7, 1985 inspection (March 5).

Glasurit, 1985b, Letter to EPA referring to a name change from Glasurit to BASF Corporation (November 27).

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MDNR, 1982d, Letter referring to interim status acknowledgement (June 13).

MDNR, 1983a, Letter to Allen Kinsler, Glasurit, referring to September 21, 1983 facility inspection and listing violations discovered (October 26).

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MDNR, 1985b, Letter to Glasurit acknowledging receipt of Glasurit's letter dated March 5, 1985 responding to the February 7, 1985 inspection violations letter (March 18).

MDNR, 1987a, Letter to BASF listing violations observed during July 23, 1987 inspection (July 30).

MDNR, 1987b, Letter to BASF acknowledging receipt of its letter outlining changes to manifest instructions (August 24).

MDNR, 1989a, Letter to BASF outlining out-of-state manifest requirements and requesting copies of BASF out-of-state manifests (September 11).

MDNR, 1989b, Letter confirming receipt of BASF October 4, 1989 letter describing its compliance program regarding out-of-state manifests (October 9).

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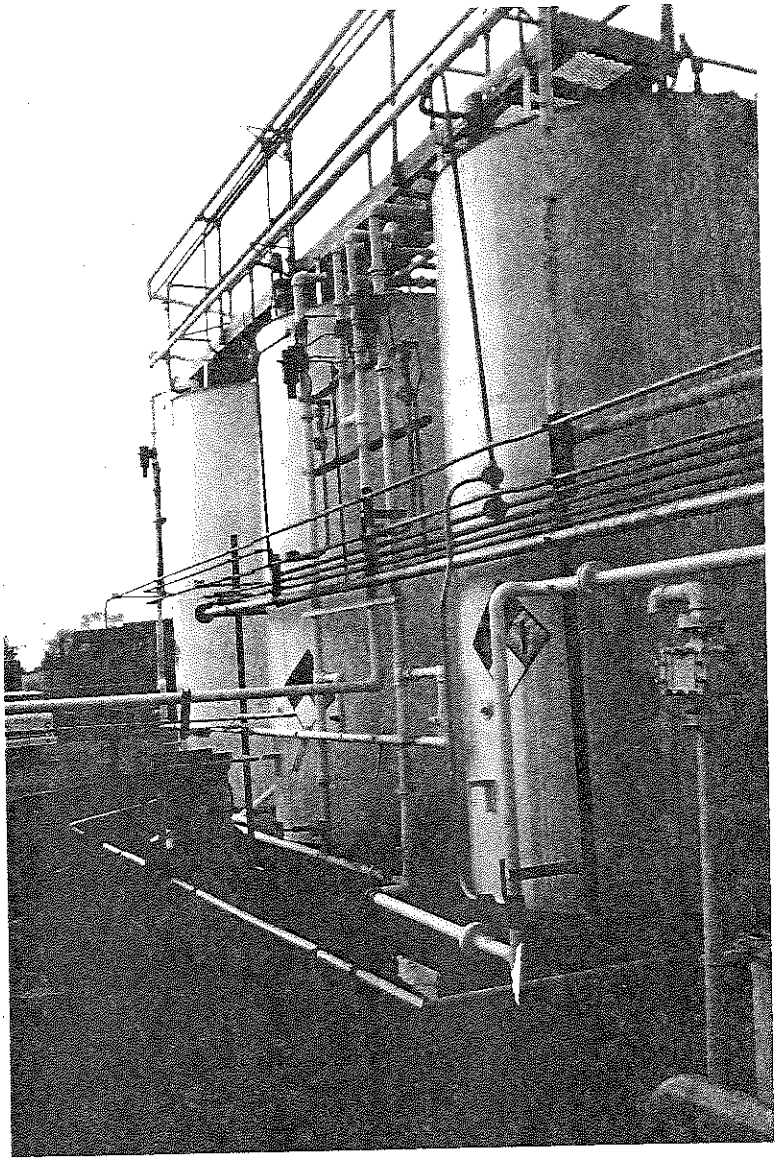
ATTACHMENT A

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

VISUAL SITE INSPECTION SUMMARY

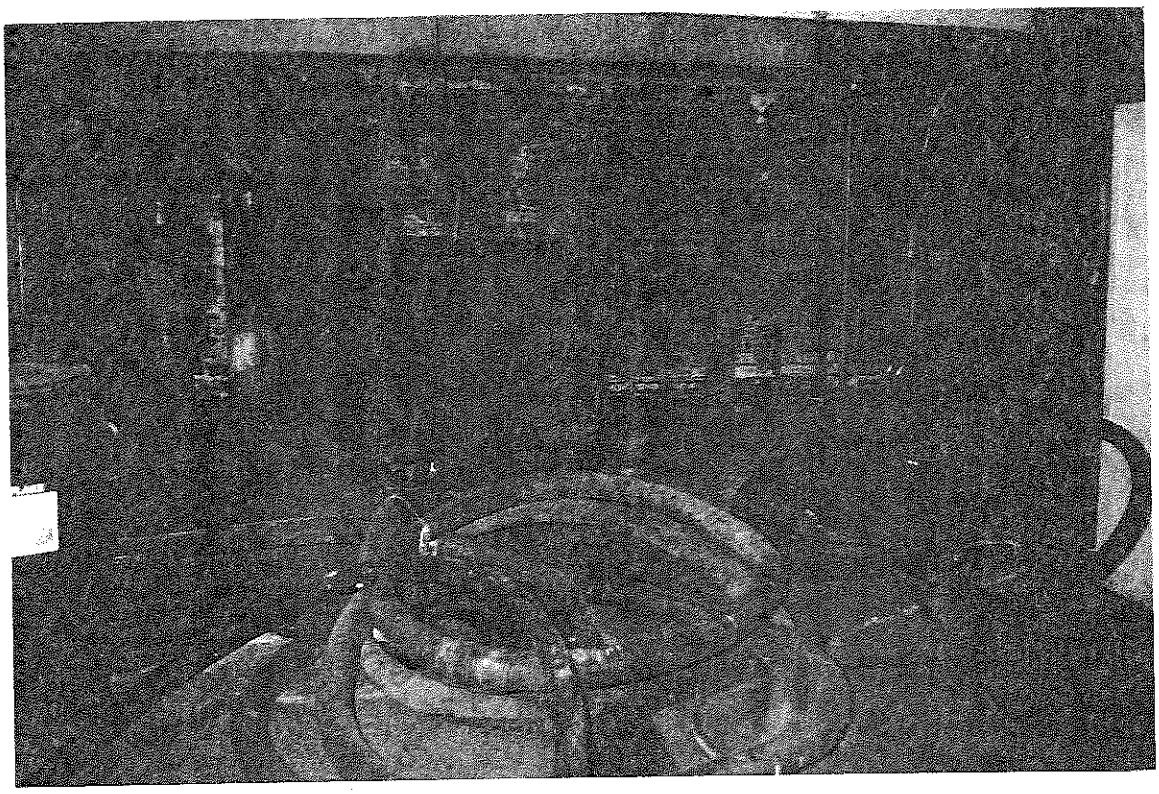
BASF CORPORATION
DETROIT, MICHIGAN
MID 007 138 746

Date:	November 6, 1991
Facility Representatives:	Allen Kinsler, Ecology Coordinator, BASF Corporation (313) 861-1000, extension 448
Inspection Team:	Tom Sinski, PRC Environmental Management, Inc. Patricia Murphy, PRC Environmental Management, Inc.
Photographer:	Patricia Murphy
Weather Conditions:	Partly cloudy, mid-30s
Summary of Activities:	The visual site inspection began at 8 a.m. at the BASF facility at 3301 Bourke Avenue. PRC's inspection team met with Allen Kinsler of BASF in a conference room at the facility. Tom Sinski reviewed the purpose of the site visit with Mr. Kinsler. The history of the site was reviewed, and past and current waste generation, storage, and disposal practices were discussed. The tour of the facility began at 9:38 a.m. Mr. Kinsler discussed specific operations conducted at each of the production areas. The tour began in building 24 of the paint manufacturing plant and proceeded through the small container storage building and the caustic cleaning area to building 17 and 17A, which house the waste water treatment unit and the resin manufacturing plant. The clear-coat manufacturing building, 20A, and the former Nortru reclamation area in building 19 were inspected next. The outside SWMUs, the central drum storage area, and the tank farm were inspected last. The facility tour was completed at 11:05 a.m. A brief exit interview was conducted with Mr. Kinsler. The PRC inspection team left at 11:25 a.m.



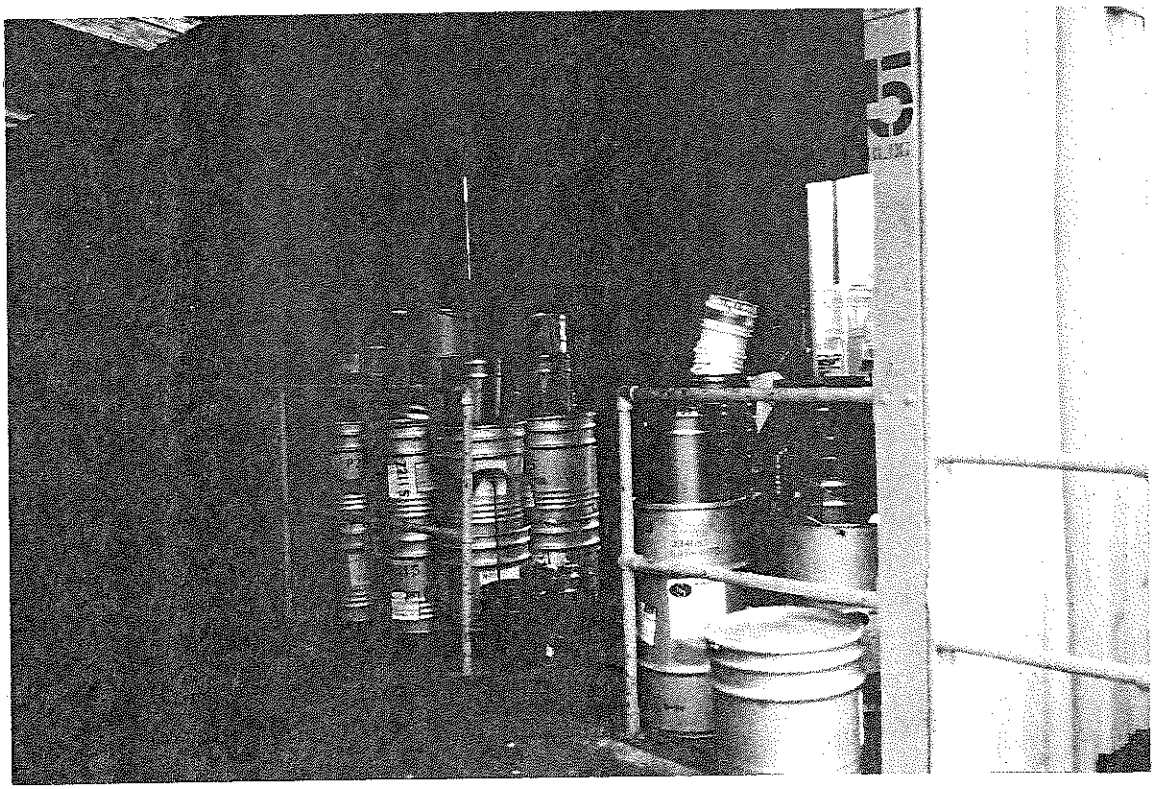
Photograph No. 1
Orientation: Northwest
Description: Three spent solvent tanks in tank farm

Location: SWMU 2
Date: November 6, 1991



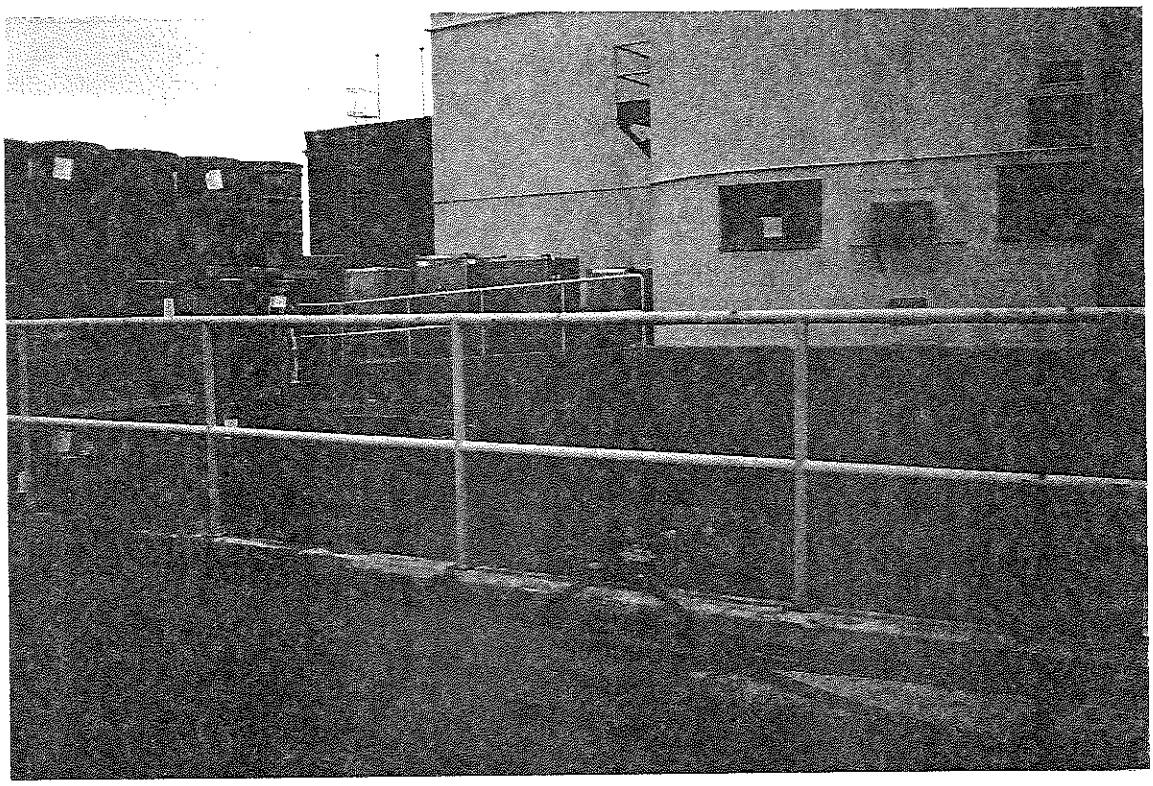
Photograph No. 2
Orientation: Northwest
Description: Caustic cleaning tank and floor drains

Location: SWMU 7
Date: November 6, 1991



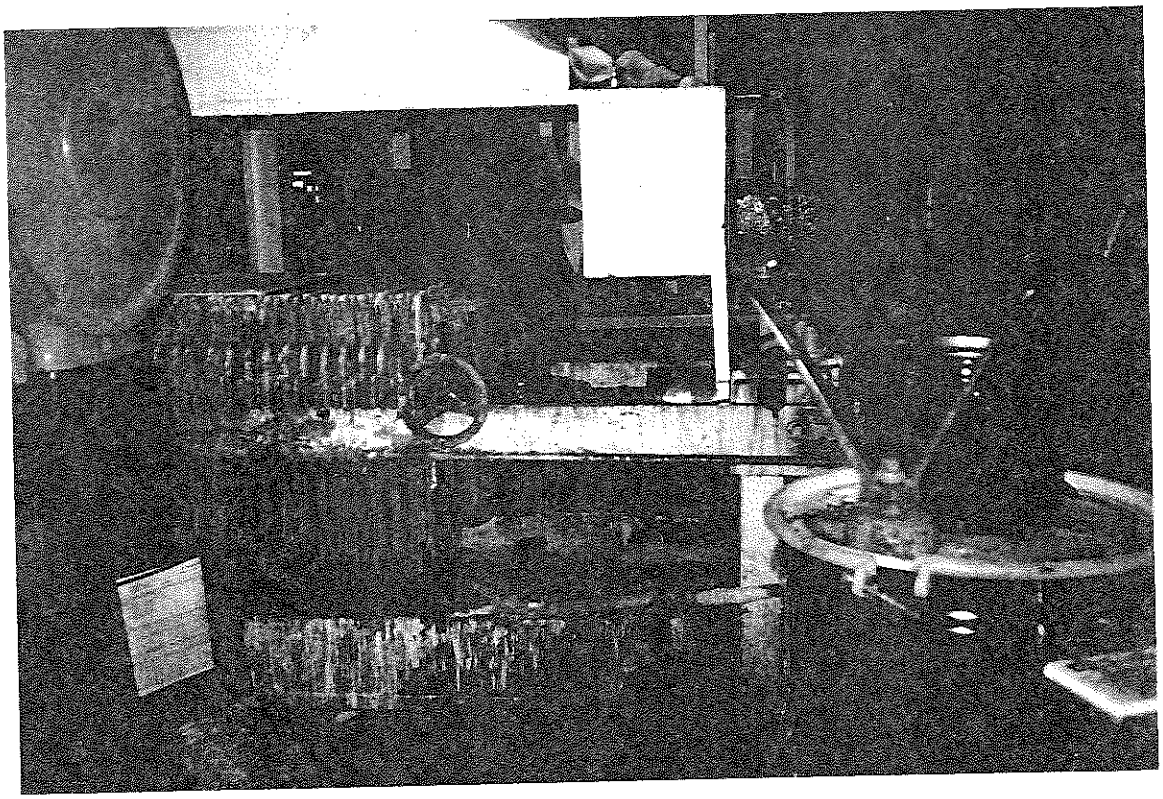
Photograph No. 3
Orientation: West
Description: Small Container Storage Area

Location: SWMU 8
Date: November 6, 1991



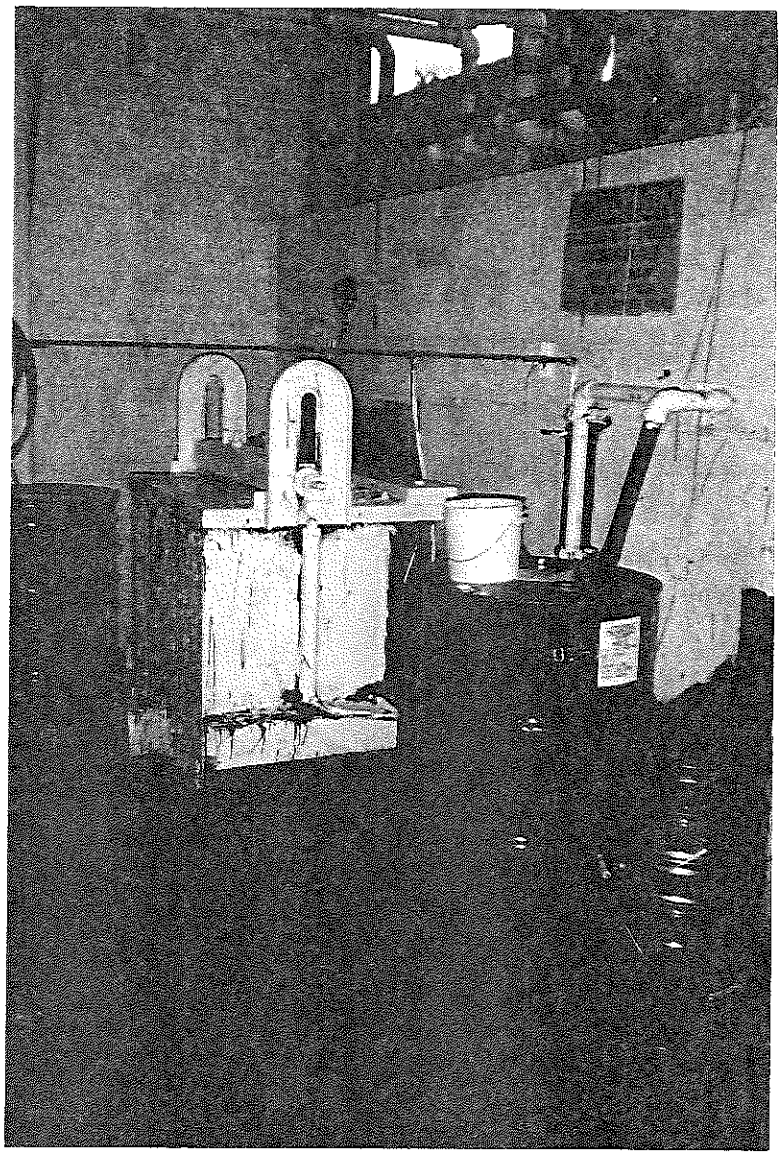
Photograph No. 4
Orientation: Southwest
Description: Central Drum Storage Area

Location: SWMU 10
Date: November 6, 1991

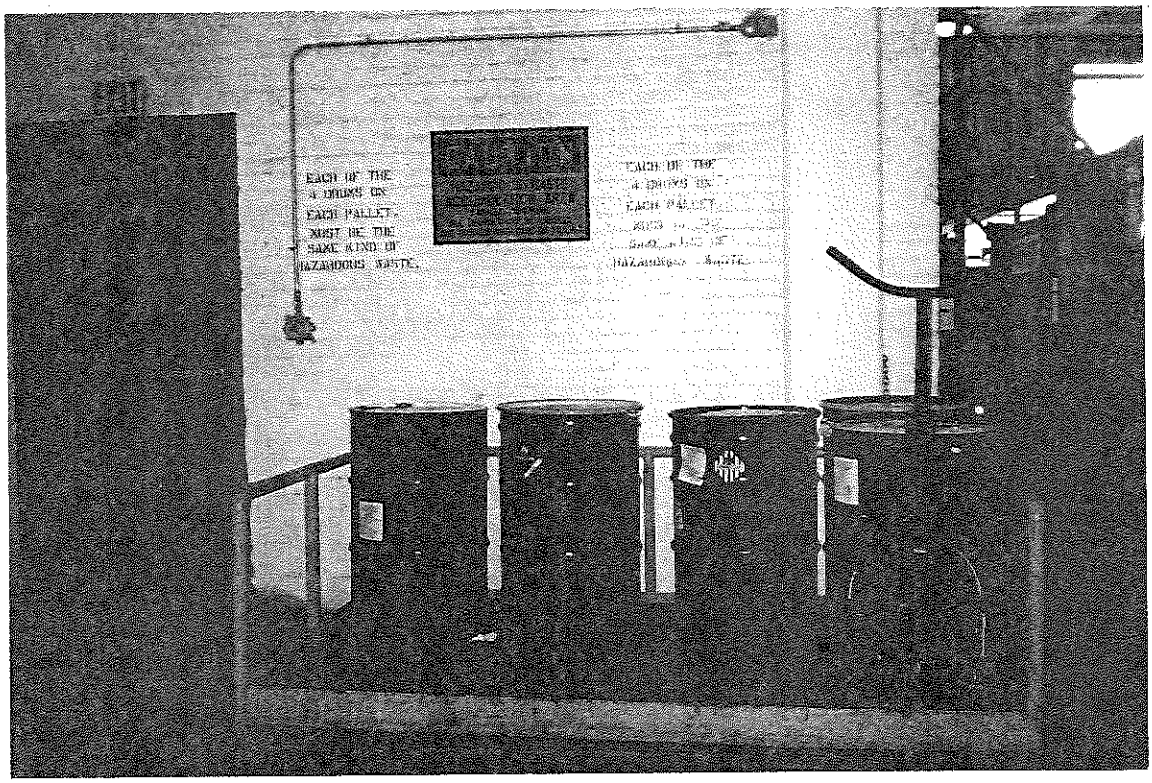


Photograph No. 5
Orientation: North
Description: Satellite Accumulation Area with resin filter press

Location: SWMU 11
Date: November 6, 1991



Photograph No. 6 **Location:** SWMU 11
Orientation: Northeast **Date:** November 6, 1991
Description: This photograph shows the Satellite Accumulation Area and filter press. The area accumulates 1 to 2 55-gallon drums of waste. The filter press has about a 16-cubic-foot capacity.



Photograph No. 7
Orientation: North
Description: Paint Waste Staging Area

Location: SWMU 12
Date: November 6, 1991

ATTACHMENT B

VISUAL SITE INSPECTION FIELD NOTES

BASF (Bourke)
MID 007 138 746
3301 Bourke Dr.
Detroit MI 48238

Rattie Murphy + Tom [illegible]
arrived at 8:00 A.M.
Met with Allen [illegible] at
8:35 A.M.

Plant started 1907.
Akron Varnish Company. In 1913
Cook Paint started making auto
paints. 1979. BASF bought out
Cook paint and obtained possession
of site. Now known as
Coatings division of BASF.
Up until a year the
development labs were onsite

Labs were moved to Southfield.
Now have paint plant,
resin plant and normal operations
Now they are <90 day generator.

Have satellite areas, staging
areas, and central accumulation
area. 10 Total satellite areas.

3 spent solvent tanks (MEK/Xylene
some butyl alcohol).

Was a 2 solvent recovery operations
onsite. A Part A was filed
for the one in bldg 20A.
Used storage tank to hold
spent solvent/ bottoms and
reclaimed solvents. Actual still
provided by [illegible].

That unit in Bldg 20A was operated until 1983. Mar-tru removed still. And closure operations were done on tanks (17 total tanks)
- 11 - waste tank
- 2 - still bottom ~~tanks~~.

2nd recovery operation was a small still for solvent recovery. Cleaning solvent pumped to settling tanks (3) then pumped to Buton still.
2 receiving tanks (on clean side)
3 spent solvent tanks are still active. Receiving tank still active, holds reclaimed solvent. Still was removed and scraped 1989. Closed

operation in 1985. Area now used as storage area for raw material.

Mar-tru still never used on BASF product.

Riser Plant OCPSF with regulations.

Stripper installed in resin building. Wastewater generated is now drummed and shipped offsite. Wastewater normally discharged to POTW. Disposed by Laidlaw, (5000 gal/wk) 5000 gallons/wk discharged when operating.
Water borne paint wastewater (from paint plant) is not treated but is drummed and sent offsite

(50)

for incineration.

265 people working 3 shifts per day.

Total size of facility is 20.75 acres. Actual production 13.6 acres.

Wolf Alloy purchased in 1987 used only for accumulation and raw material storage.

When Closure operation took place did not accept any non offsite solvents. Typical solvents MEK, Toluene, Xylene used water. (not Methylene chloride TCE not accepted). Reclaimed for use offsite.

(51)

1 fuel oil UST. and one tank used for caustic circulation. All other USTs used for raw material storage and reclaimed solvent. All steel tanks were closed in 1986.

Tank farm near Alley 17 contains non-hazardous product oily. Cathodic not used.

Tank farm near Alley 11C 2 tanks remain. 1 filled with fly ash the other holds water. All other tanks removed. held raw material + reclaimed solvents.

UST farm under the tank farm at south west corner had 4 USTs. All tanks cleaned and filled in place. Land held raw material.

All UST tanks were cleaned in 1986.

2 tank near bldg 12 held fuel oil.

Spill in 1989. In the spent solvent tanks. And the overflow containment. Totally contained no solvents was released to surface

Caustic spill (15 gallons) overflow of tank in tank farm. Spent solvent occured summer of 1991. Containment walls held the material

1986 1987 Release of Xylene (300-400 gallons) escape to sewer.

1990 Charging a reactor, control valve was blocked and material release to sanitary system. Spilled material was a resin (containing solvent). Discharged to sewer. Approx 1000 lb - 1500 lbs Xylene and polymer resin was not recovered assumed it went to sewer

Facility also generates filter wastes / cleaning wastes / wastewater from resin plant. Spent containers.

Solid wastes stored in 55-gallon drums. Satellite area & staging area & central accumulation area.

3rd Fl. bldg 24+23. Old Development Lab
2nd Fl (24) another lab, offices, and storage of last products
1st Fl (24) Shipping

2nd Fl (23, 11A, e) dispersion & charging area for blending & mill on 1st floor.

3rd Fl (11A, B, C) quality assurance lab.

1st Fl (23, 11A, e.) blend Reactor. Materials

11B + storage area (1st Floor)
" office (2nd Fl)

Bldg 5 entrance bldg. storage of equipment and empty containers.

Bldg 15 - Caustic cleaning of equipment - & storage of waste Corrosive material.
Caustic wastes are neutralized and discharged down sewer.

Bldg 16 Portable tanks tank cleaning facility. Cleans tanks and lids.

Bldg 12 Batch house.

Resin Plants

Bldg 17, 20, 25, 25A.

storage tanks in 20, 25

17 Contains storage, staging area,

20A. Clear coat mfg and storage.

20B - Batch room

Bldg 21 - old batch room.

Bldg 18 Peroxide storage bldg. Used in resin plant as chain rxn initiator. Inspection started at approx. 9:50

Staging area in Bldg 24 used to store drums <90 days. Contained 5 drums at the time on a steel grate.

Satellite area with filter bag disposal. Drums are grounded and labeled Hazardous waste MEK, Xylene, filter waste.

liquid are pumped into tank from filter-bag shed.

3 spent solvent tanks 2900 gallons each. In a tank farm surrounded by concrete wall approx 6 ft high. Gravel over concrete on bottom. Spent tank are surrounded by a 2nd containment wall made of iron.

Spent tanks are on a concrete pedestal approx 1½ ft thick and 5 ft off the ground.

Tank are emptied 3

times a week. Taken offsite for reclaim. Petro-chem picks up the solvents.

18 tanks are raw material storage.

Spent Solvents: Piping for solvent tanks is all above ground.

Fresh solvent piping is below ground.

Bldg 15 where all [illegible] solvent [illegible] was [illegible] Also used for raw material and intermediates.

Neutralization room. Has a neutralization tank filled with caustic for cleaning. (250 gallon tank) neutralized work acid. Wastewater is discharged to sanitary sewer system. The bldg has grated floor drains connected to sanitary sewer

Bldg 17 Pretreatment system. 1st tank (10,000 gallon) receives WW. has an emulsion layer which settles on top. Water is pumped to 2nd tank (11,400 gallon then pumped into ~~a~~ Distillation column and condenser to separate water and butyl alcohol. Butyl alcohol is refined at another BASF site. Right now the distillation column is not working correctly all wastewater is being drummed and disposed off site by Laidlaw

Staging area in Resin plant. Same as paint plant. No drums currently at the site. Cap & drum

Satellite area in quality control lab. One drum. Dented

(70)

(72)

Satellite drum near filter press in resin plant.

Clear Coat 20A. Another satellite area. Concrete floor. Product storage tanks micro gel, clear coat. Concrete floor. Sump in the room to catch spills. No drains.

Central accumulation area outside and concrete pad. Submerged and 3 ft high containment wall. Ramp leads down into the area. Drums are stacked on pallets. 3 high. Currently contained some water. Approx size 40 ft x 60 ft

(73)

Concrete appeared sound no cracks. Containment drain in corner can be pumped to sewer, control valve operated pneumatically. Spills that are hazardous are not pumped.

Capacity of pad is 460 drums. (Containment is 1½ times the capacity).

Catch tank outside of building 23A catch any foam from vent in reaction vessels. The material from catch tank goes to [illegible] to remove solvents or [illegible] materials.

(74)

Scrubber is a bubble through scrubber containing caustic.

Collect tank is pumped approx every 3 months. Vacuum truck pumps tank and disposes off site.

B2.2 g 5

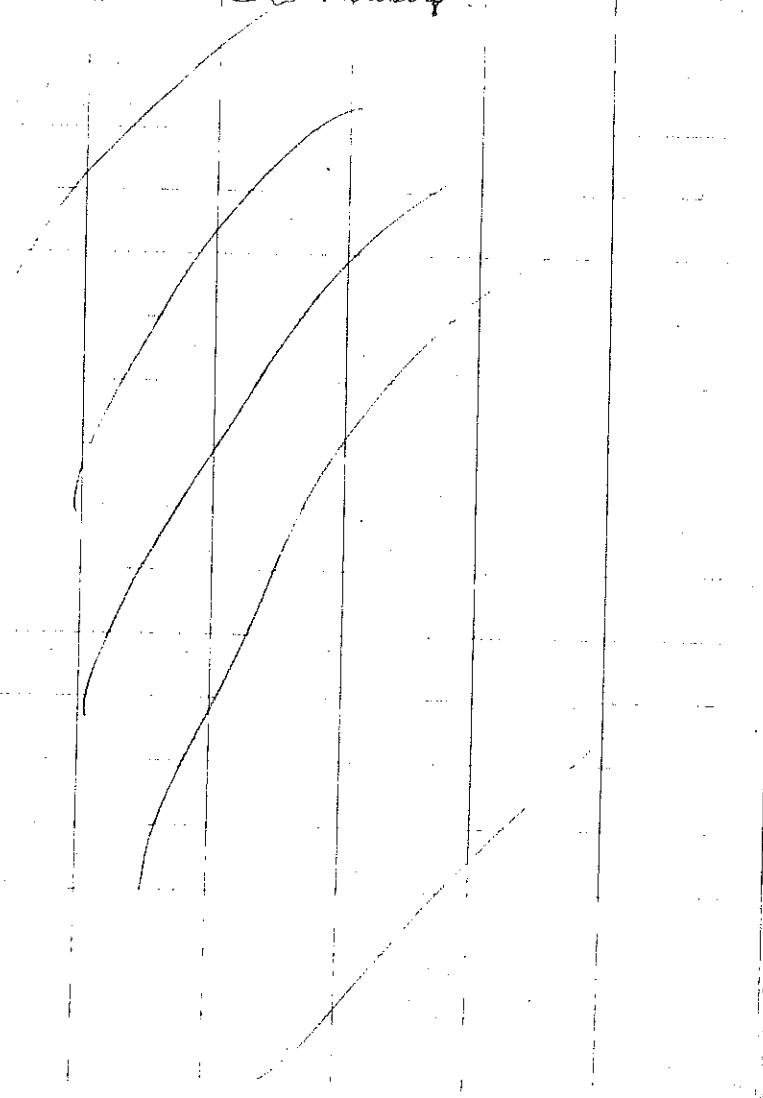
Small containers (bags) are collected and sent to Excell Disposal Company in Chicago.

Tour ended at ~ 11:07 A.m.

Exit interview held at facility at 11:30 P.m.

(75)

Surrounding area is residential with some industry.



11-6-91 PM

0800 BASF (Beverly) MID-007-130-796 Coatings

0820 Met with Allen Kinsler in conference room to kick things off

1907 - Akron Varnish Co.

1913 - Cook Paint & Varnish Co.

mfg. Automotive paints

Cook owned til 1979

always mfg. paints - use to have development labs - they were moved to Southfield 2yrs. ago - now only have quality labs

Paint plant & resin plant

wastes - < 90 day generators

have Satellite Accum. Areas (1 in paint plant, 1 in resin plant)

small capacity staging areas where drums are held and then taken to drum storage area

11-6-91 PM

3 spent solvent tanks - steel pan containment (MEK, butyl alcohol, xylene)

Interim Status storage permit

Bldg. (20A) - Storage tanks held spent solvent, bottoms & reclaimed solvent. Reclamation unit owned by Northern (owner Norm Foster) They supplied solvent operated reclaiming equipment, disposed of bottoms and took away solvent. 11 waste tanks (2 bottom still residue) and 7 reclaimed product tanks.

Second reclaiming operation - small pot still for on-site material.

Pipe out to 3 tanks in tank farm - settled - then piped to a small Brighton still - 2 receiving tanks - went thru

Quality ~~tank~~ checks before going to refined product tank.
Area now used for ~~in bound~~ storage of water born materials
Still use storage tanks and refined product.

Subject to OSPCF discharge - water generated from resin mfg. process recovery stripper was used here. Treated wastewater normally sent to POTW - when problems occur. Material is drummed and sent off site for disposal.

Wastewater also generated from paint plant from waterborne equipment cleaning - thats sent off for incineration.

Approx. 265-270 employees
20.75 acres total 13.6 acres production
Wolf Bldg. purchased in 1986
Used for offices - engineering & accounting

Most of off-site solvents included: Toluene, xylene, MEK - methylene chloride (& trichloroethane) was not accepted. No off-site reclaimed solvents were ever used at this plant.

Had raw material USTs those tanks were closed in Nov. 1986. Now only have 1 fuel oil UST. Raw material tanks were also used for reclaimed material. USTs by Bldg. 17 held corn oils, etc. were cleaned and filled with fly ash.

11-6-91 PM

USTs adjacent to Bldg. 11 were removed. Two remain the one under Bldg. 11C was cleaned and filled with fly ash. 2nd one is used for wastewater (3)

Fuel oil UST adjacent to Wolf Bldg. used to supply boiler which heats Bldg.

Were also (4) USTs underneath above-ground tank farm - they contained reclaimed material. These were also closed in 1986.

4/5/89 350 gallon spill from spent solvent tanks in tank farm in back. Spill was totally contained

15 gallon spill in tank farm of spent solvent - Summer '91 Stained side of tank

1980-7 - 300 - 400 gallon xylene spill had discharged water to sewer forgot to close valve and xylene went thru sewer.

✓ 1990 - escape to sewer; Charging reactor - bolt got caught in manifold rather than diverting to second reactor it overflowed and went into vent system. Went thru to sewer < 1,000 lbs xylene + polymers. New system was installed with containment if it overfills it diverts back to the room where the person pumping is. The spill was a resin with solvent material.

Note* 1510 lbs not recovered rest was recovered from vent lines & reactor

Cleaning tanks and equipment and filtering is primary generator of solid waste. Some from spills. Clothing, rags etc.

11-6-91 PM

Pigment from dust collectors are added to resin filter waste and disposed of together. All waste is drummed.

Central Storage where waste is brought from staging areas is outside of Bldg. 20A.

3rd floor Bldg. 24 & 23

2nd floor 24 - lab, no longer used office, closed container Storage of pigment pastes.

1st floor - Shipping

23 - 2nd fl. 11A, B, C - dispersion area & Charging area for blend tanks on 1st floor

1st floor 11A, B - QA area labs, Spray booths

11, 11A & 11C - blend tanks

11B - 1st fl. general storage area

11B - 2nd fl. - offices

14 - stairwell & elevator bldg.

15 - walk thru Bldg - store equip. area where empty containers are accumulated (not drums) pails, etc.

15 - Caustic cleaning equip. (1/3) Storage of water-borne raw materials in other 2/3

Cleaning solution - wastewater neutralized & discharged to sewer.

16 - Portable tank cleaning area portable machine to clean tanks & lids.

12 - Boiler house

17, 20, 25, 25A - resin mfg.
20 & 25 also contain storage tanks
17A - raw mat'l storage
staging area
18 non-haz storage (labels, etc)
20A - primarily clear coat mfg
& storage
20B - break room.
21 - old Pothern Boiler rooms
Boilers have been ~~removed~~ cleaned & will be removed.
18 - Peroxide Storage Bldg
WOF - receiving, nonhaz. (raw mat'l)
Storage, maint. & offices.

0938 finished discussion and started walk thru of facility.

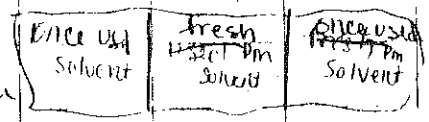
0959 Staging area in Bldg. 24 Photo 15
all drums, closed labeled & dated
Photo 16 - filter bag used to press out liquids - liquids accumulate in 55 gallon drum at satellite accumulation (SAA) area.
Solids from bag filter also drummed

Staging area has 8 drum capacity to allow for 1 pallet of liquids and 1 pallet of solids before material is moved to central accumulation area.

Patricia A. Murphy 11-6-91

11-6-91 PM

Tank Cleaning



Spent solvent is pumped to tanks out back

Tank cleaner

2,900 gal - 3 spent solvent tanks

Photo 17 - emptied 3 times per week for off-site reclamation area surrounded by ~ 6ft concrete dike.

Total of 21 tanks in the farm all others are raw product monomer tanks. piping are above ground raw material piping is underground Spent solving piping is above gr.

Bldg. 15 in area where raw product is stored (some intermediates (pigment products)

11-6-91 PM

is where BASFs still was used.

Caustic cleaning & neutralizing floor drains ~~connect~~ connect to sewer system. tank is ~ 250 gallons

Photo 18 - ~~Bldg~~ Caustic tank and floor drain.

~~Bldg~~ Bldg. 17 houses pretreatment system. 1st tank receives wastewater (13a) - emulsion layer settles out (held for 3 days) water is transferred to next tank (13). Then goes to stripper thru condenser - phase separation recovered butyl alcohol sent to a sister site & reused then returned to this plant

11-16-91 PM

Water goes back to tank 131 for retreatment. ~~Tanks~~

Stripper guts, ethyl benzene to (limits) OCPSF.

132 - 10,000 gal.

131 - 11,000 gal capacity

Currently ww going from 132 to stripper, then ww held in 131

Staging area for resin plant in Bldg. 17. (empty)

8 drum capacity

Quality Control lab - with funneled drum for satellite accumulation of lab wastes.

Photo 19 - resin filter press shovel waste into drum.

Bldg. 20A - Clear coating mfg. use filter bag ~~press~~ instead rather press like in resin area.

19 - attached to 20A - location of former Natro operation.

tanks 210 - 219 - product & intermediates

227 - 220 - resins & product.

drains in this area collect ww which goes to ww treatment tank.

Central Accumulation Area

Photo 20 - Current site - 4ft on Bldg. side and 3ft on road side and front & back. Drums stacked 3 high.

Every 3 months material in the water tank ~~after~~ from by monomer tank is emptied into vac truck and disposed of.

Relief tank for reactor 92

1 Pail in container storage area for disposal (Exel Disposal in Chicago) (crushed first)
Pan under crusher collects any residue and disposes of as hazardous. Photo 21

1105 Completed inspection and went back to conference room for a debrief.

Peroxide is used in resin plant as a chain reaction initiator

- Wastewater from tank 131 is sent in Buck to Laidlaw and occassionally to IFR. ~ 4 loads / week. ~5,000 gals per load.

- Have 10 satellite accumulation areas including the one in QA lab.

1125 Left site

Patricia A. Murphy 11-6-91

NT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

5HR-12

October 29, 1991

Allen Kinsler
BASF Corporation
3301 Bourke Avenue
Detroit, Michigan 48238

Re: Visual Site Inspection
BASF Corporation
Detroit, MI
MID007138746

Dear Mr. Kinsler:

The United States Environmental Protection Agency (U.S. EPA) Region V will conduct a Preliminary Assessment including a Visual Site Inspection (PA/VSI) at the referenced facility. This inspection is conducted pursuant to the Resource Conservation and Recovery Act, as amended (RCRA) Section 3007 and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA) Section 104(e). The referenced facility has generated, treated, stored, or disposed of hazardous waste subject to RCRA. The PA/VSI requires identification and systematic review of all solid waste streams at the facility. The objective of the PA/VSI is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the facility which may require further investigation. This analysis will also provide information to establish priorities for addressing any confirmed releases.

The visual site inspection of your facility is to verify the location of all solid waste management units (SWMUs) and areas of concern (AOCs) to make a cursory determination of their condition by visual observation. The definitions of SWMUs and AOCs are included in Attachment I. The VSI supplements and updates data gathered during a preliminary file review. During this site inspection, no samples will be taken. A sampling visit to ascertain if releases of hazardous waste or constituents have occurred may be required at a later date.

Assistance of some of your personnel may be required in reviewing solid waste flow(s) or previous disposal practices. The site inspection is to provide a technical understanding of the present and past waste flows and handling, treatment, storage, and disposal practices. Photographs of the facility are necessary to document the condition of the units at the facility and the waste management practices used.

The VSI has been scheduled for November 6, 1991. The inspection team will consist of personnel of PRC Environmental Management, Inc., a contractor for the U.S. EPA. Representatives of the Michigan Department of Natural Resources (DNR) may also be present. Your cooperation in admitting and assisting them while on site is appreciated.

The U.S. EPA recommends that personnel who are familiar with present and past manufacturing and waste management activities be available during the VSI. Access to any relevant maps, diagrams, hydrogeologic reports, environmental assessment reports, sampling data sheets, environmental permits (air, NPDES), manifests and/or correspondence is also necessary, as such information is needed to complete the PA/VSI.

If you have any questions, please contact me at (312) 886-4448 or Sheri Bianchin at (312) 886-4446. A copy of the Preliminary Assessment/Visual Site Inspection Report, excluding the conclusions and Executive Summary portion may be made available upon request.

Sincerely yours,

Kevin M. Pierard, Chief
OH/MN Technical Enforcement Section

enclosure

cc: Ben Okwumabua, Michigan DNR
Dennis Drake, MDNR - Lansing
Ken Burda, MDNR - Lansing

ATTACHMENT I

The definitions of solid waste management unit (SWMU) and area of concern (AOC) are as follows.

A SWMU is defined as any discernable unit where solid wastes have been placed at any time from which hazardous constituents might migrate, regardless of whether the unit was intended for the management of a solid or hazardous waste.

The SWMU definition includes the following:

- RCRA regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that U.S. Environmental Protection Agency has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents, such as wood preservative treatment dripping areas, loading or unloading areas, or solvent washing areas

An AOC is defined as any area where a release to the environment of hazardous wastes or constituents has occurred or is suspected to have occurred on a nonroutine or nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

Testing Engineers & Consultants, Inc.

P.O. Box 249 • 1333 Rochester Road • Troy, Michigan 48099

313-588-6200 or Dial T-E-S-T-I-N-G

John Banicki, P.E.
Kenneth Cummins, L.S., P.E.
Gerald M. Belian, P.E.
Elihu Geer, PhD, P.E.
Michael Davinich, P.E.

T.E.C. Report Number: 9322-1
Date Issued: 11 May 1984

Glasurit America, Inc.
P.O. Box 38009
Detroit, Michigan 48238

Attention: Mr. Allan Kinsler

Re: Testing of 11 Tanks (numbers 210-220) for Combustible Vapors and Visual Inspection of Same.

Dear Mr. Kinsler:

On 3 May, 1984 the above referenced storage tanks were tested for the presence of combustible vapors and visually inspected for the presence of sludges and/or residues remaining in the tank.

The flammability tests were performed using an Edmont #60-400 Combustible Gas/Oxygen Monitor. The instrument was calibrated on 3 May, 1984 using Methane Test Gas.

All storage tanks tested were found to be free of combustible vapors and contained no visible sludges or residues.

We are pleased to provide this service. Should you have any questions regarding this report, feel free to contact us at your convenience.

Respectfully submitted,

TESTING ENGINEERS & CONSULTANTS, INC.

Scott Chandlers
Chemist - Environmental Services

David W. Byrd
Staff Consultant

SC/DWB/mr